

REMARKS

Claims 1-57 remain pending. No claims are amended.

Objection To The Abstract

The Examiner provided a long narrative about the correct form for the abstract under current U.S. practice. Applicant has carefully reviewed the abstract, but there appears to be no violation of current U.S. practice. To avoid any issue however, Applicant has amended the abstract to reduce the number of words to 145, well within the current 150 limit. Applicant notes that the 150 word limit was established subsequent to the U.S. filing date of this application. In view of this amendment, any objection to the abstract inferred, or unstated in Paper No. 6, is deemed to have been overcome.

Objection Under 37 CFR §1.172(a)

In paragraph 4 of Paper No. 6, the Examiner objected to the specification under 37 CFR §1.172(a),

“as lacking the written consent of all Assignees owning an undivided interest in the patent. The consent of the assignee must be in compliance with 37 CFR §1.172. See *MPEP §1410.01*. A proper assent of the Assignee in compliance with 37 CFR §1.172 and §3.73 is required in reply to this Office action.” Paper No. 6, pg. 3, para. 4.

The Examiner has overlooked Applicant's originally filed:

- *Reissue Application Declaration By The Assignee* (PTO/SB/52); and
- *Reissue Application Declaration By The Inventor* (PTO/SB/51).

Copies of both Declarations are enclosed. Examination of these Declarations will show that the objection is unfounded.

First, the Examiner questions whether there was written consent by all Assignees. The prosecution history establishes that there is but a single Assignee, Samsung Electronics Co., Ltd. If the Examiner has any basis for asserting that there is more than one Assignee, the Examiner is requested identify that information. To date, only a single Assignment has ever been filed for

Applicant's patent; there has been no subsequent Assignment.

Second, the Examiner asserts that "the consent of the Assignee must be in compliance with 37 CFR §1.172." In its entirety, 37 CFR §1.172(a), states that:

"a reissue oath must be signed and sworn to or declaration made by the inventor or inventors except as otherwise provided (§§1.42, 1.43, 1.47), and must be accompanied by the written consent of all assignees, if any, owning an undivided interest in the patent, but a reissue oath may be made and sworn to or declaration made by the assignee of the entire interest if the application does not seek to enlarge the scope of the claims of the original patent. All assignees consenting to the reissue must establish their ownership in the patent by filing in the reissue application a submission in accordance with the provisions of §3.73(b) of this chapter."

The Examiner's attention is invited to page 3 of the 3 page Reissue Declaration by the Assignee, which expressly includes that:

"the undersigned officer of the assignee ... consents to the filing of this reissue application for the reissue of U.S. Patent No. 6,141,627."

In short, the Examiner's assertion that the consent of the assignee is not in compliance with §1.172 is incorrect. Withdrawal of the rejection is required.

Third, the Examiner asserts that

"a proper assent of the assignee in compliance with 37 CFR §1.172 and §3.73 is required in reply to this Office action."

Under 37 CFR §3.73,

"ownership is established by submitting to the Office a signed statement identifying the assignee, accompanied by either:

(I) Documentary evidence of a chain of title from the original owner to the assignee (e.g., copy of an executed assignment). The documents submitted to establish ownership may be required to be recorded pursuant to §3.11 in the assignment records of the office as a condition to permitting the assignee to take action in a matter pending before the Office; or

(ii) A statement specifying where documentary evidence of a chain of title from the original owner to the assignee is recorded in the assignment records of the Office (e.g., reel and frame number)."

The Examiner's attention is again invited to page 3 of the reissue application declaration by the assignee, which states that:

"the undersigned officer of the Assignee, is duly authorized to make this Declaration, and has examined the documents of title, and determined that SamSung Electronics Co., Ltd., the assignee of U.S. Patent No. 6,141,627 by virtue of an Assignment from all inventors recorded in the U.S. Patent & Trademark Office at Reel No. 9323, at Frame No. 0219 on the 20th day of July 1998, consents to the filing of this reissue application for the reissue of U.S. Patent No. 6,141,627."

The foregoing excerpt from the Declaration by the Assignee complies in every particular with 37 CFR §3.73(b)(1)(ii) by "specifying where documentary evidence of the chain of title from the original owner to the Assignee is recorded in the assignment records of the Office" by expressly identifying the reel and frame number. The Examiner is now requested to give "the statement specifying where" the Declaration by Assignee fails to comply with 37 CFR §1.172 and §3.73.

Applicant has complied verbatim with the requirements of 37 CFR §3.73. If the Examiner is able to identify any deficiencies in Applicant's compliance, the Examiner is requested to expressly state the deficiency, with particularity. Absent this, the Examiner's requirement of "a proper assent of the Assignee" must be withdrawn.

Rejection Of Claims 1-57 Under 35 U.S.C. §251 Based Upon "New Matter"

Claims 1-57 were rejected under 35 U.S.C. §251 "as based upon new matter added to the patent for which reissue is sought. Applicant respectfully traverses this rejection for the following reasons.

The Examiner asserted, in support of this rejection, that,

"the added material which is not supported by the prior patent is as follows: a *computer storage medium including a storage set of instructions for implementing a method of controlling power consumption in a tilt correcting coil of a monitor.*"

Paper No. 6, pgs. 3 and 4.

The Examiner has not identified the location of this amendment to "the patent for which reissue is sought."

First, the Examiner is respectfully requested to re-consider this rejection and to comply with 37 CFR §1.104(b) and (c) by completing the basis for the rejection and specifically identifying the location of the amendment of the patent to include the new matter asserted.

Second, a review of the amendments made to the patent are set forth in the abstract, column 3, lines 1-6; column 3, lines 12-17; column 3, lines 20-24; and column 4, lines 1-7. None of these lines refer to either "a computer storage medium" or "a stored set of instructions for implementing a method of controlling power consumption in a tilt correcting coil for the monitor." The corrections to the specification in the four paragraphs of Applicant's patent do not use this terminology. Withdrawal of the rejection is therefore required.

Third, the Examiner asserts that the "added material is not supported by the prior patent ...". In fact, Applicant's '627 patent reads as follows:

- S1 "Once the computer system is initially started or after a resetting operation, microcomputer 20 receives horizontal and vertical synchronizing signals from the computer system in a normal on-state mode." Column 4, lines 1-4
- S2 "The microcomputer 20 determines whether horizontal ... synchronizing signals are found to be input" Column 4, lines 5-8
- S3 "Microcomputer determines whether ... vertical synchronizing signals are being input from the computer system." Col. 4, lines 5-7
- S5 "At a Step 5, the on-state mode of the monitor is set." Column 4, lines 12, 13
- S6 "Microcomputer 20 outputs the tilt correcting PWM signal having a duty ratio corresponding to a pre-set tilt correcting value." Column 4, lines 12-14
- S7 "If it is determined at step S3 that vertical synchronizing signals are not input, then microcomputer 20 sets the monitor in the suspend mode" Column 4, lines 30-33

- F4** "If it is determined at step S2 that the horizontal synchronizing signals are not input, then at step S4 it is determined whether or not the vertical synchronizing signals are input from the computer system." Column 4, lines 34-37
- S8** "If it is determined at step S4 that the vertical synchronizing signals are input, then microcomputer 20 sets the monitor in the standby mode at step S8. Column 4, lines 37-39
- S9** "If it is not determined that the vertical synchronizing signals are not input at step S4, then microcomputer 20 sets the monitor in the power-off mode at step S9." Column 4, lines 39-42
- S10** "Then, at step S10, microcomputer 20 withholds or does not generate, the tilt correcting PWM signals."

Figure 2 should be read in conjunction with the discussion in column 2, lines 11-15, which define the modes as follows:

S1, S2, S3, S5, S6 equals on-state mode power consumption of about 80-100 Watts. Column 2, line 12.

S1, S2, S4, S8, S10 equals stand-by mode, with a power consumption of about 65 Watts or less. Column 2, line 13.

S1, S2, S3, S7, S10 equals suspend mode, with power consumption of about 25 Watts or less.

S1, S2, S4, S9, S10 equals power-off mode, with power consumption of about 5 Watts or less.

Claims 27-33

Independent claim 27, together with its dependent claims 28-33, define in the preamble, a:

"computer readable storage medium including a stored set of instructions for implementing a method of controlling power consumption in a tilt correcting coil of a monitor."

In accordance with 37 CFR §1.104(b) and (c), the Examiner is requested to identify with specificity and with particularity, where in the foregoing excerpts from Applicant's original patent, Applicant

fails to either teach “a computer storage medium”, a “stored set of instructions for implementing a method of controlling power consumption” or “a stored set of instructions for implementing a method of controlling power consumption in a tilt correcting coil of a monitor.” Each of these terms is both present, and described in Applicant’s original patent, both in the specific steps of the algorithm and in the power consumption. The Examiner’s allegation of new matter is unfounded.

Claims 55-57

Independent claim 55, together with its dependent claim 56 and 57 define, the preamble, a: “computer storage medium including a set of instructions implementing a method for controlling power consumption in a tilt correcting coil of a monitor.” Claim 55, lines 1 and 2.

Referring to the foregoing excerpts from Applicant’s ‘627, the Examiner is requested pursuant to 37 CFR §1.104(b) and (c), to state with particularity and specificity, where the following features from the preamble of claim 55 are “not supported by” Applicant’s prior ‘627 patent:

- “a computer storage medium”;
- “a computer storage medium including a stored set of instructions”;
- “a stored set of instructions for implementing a method of controlling power consumption”; or
- “a stored set of instructions for implementing a method of controlling power consumption in a tilt correcting coil of a monitor.”

Applicant submits, that each noun and verb of the preamble are included within the foregoing excerpts from the ‘627 patent.

In view of the foregoing demonstration of Applicant’s original disclosure of “a computer medium”, a “stored set of instructions” S1 through S10, with the instructions disclosed as “implementing a method of controlling power consumption” and with that method applied explicitly

to "a tilt correcting coil of a monitor", Applicant's generic and broad description in the preamble is completely supported by the original '627 patent. Withdrawal of this rejection is therefore required.

Rejection Of Claims 1-57 Under 35 U.S.C. §251-Broadened Reissue Application

Claims 1-57 were rejected under 35 U.S.C. §251 as being improperly broadened in a reissue application "made and sworn to by the assignee and the patentee." Applicant respectfully traverses this rejection for the following reasons.

Accompanying this response are copies of the inventor's originally signed reissue Declaration. The inventor, Yeo-Chang Yoon signed the Declaration on the 11th of December 2001, and the Declaration was filed with the original application. Applicant's postcard receipt confirming the filing of the Declaration accompanies this response. In short, this rejection is improper and must be withdrawn. Such action is respectfully requested.

In view of the foregoing amendments and remarks, this application is deemed to be in condition for allowance. Should questions remain unresolved however, the Examiner is respectfully requested to immediately telephone Applicant's undersigned attorney.

Respectfully submitted,

Robert E. Bushnell,
Attorney for the Applicant
Registration No.: 27,774

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(202) 408-9040
Folio: P55057RE
Date: 07/08/03
I.D.: REB/wc

REISSUE APPLICATION DECLARATION BY THE ASSIGNEE	Docket Number (optional) P55057RE						
<p>I hereby declare that:</p> <p>My residence and post office address and citizenship are stated below next to my name.</p> <p>I am authorized to act on behalf of the following assignee: <u>SAMSUNG ELECTRONICS CO., LTD.</u></p> <p>and the title of my position with said assignee is: <u>Senior Manager</u></p> <p>The entire title to the patent identified below is vested in said assignee.</p>							
<p>Name of Patentee(s): <u>YEO-CHANG YOON</u></p>							
Patent Number: <u>6,141,627</u>	Date of Patent Issued: <u>October 31, 2000</u>						
<p>Title of Invention: <u>METHOD AND APPARATUS FOR CONTROLLING POWER CONSUMPTION IN A TILT CORRECTING COIL</u></p>							
<p>I believe said patentee(s) to be the original, first and sole/joint inventor(s) of the subject matter which is described and claimed in said patent, for which a reissue patent is sought on the invention entitled <u>METHOD AND APPARATUS FOR CONTROLLING POWER CONSUMPTION IN A TILT CORRECTING COIL</u>, the specification of which</p> <p><input checked="" type="checkbox"/> is attached hereto, and is being amended in the Preliminary Amendment filed concurrently with this reissue application.</p> <p><input type="checkbox"/> was filed on _____ As reissue application number ____ / _____, and was amended on _____</p> <p style="text-align: center;">(If applicable)</p>							
<p>I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to patentability and to the examination of this application in accordance with Title 37 of the Code of Federal Regulations §1.56. I hereby claim foreign priority benefits under Title 35, U.S. Code §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT International application which designated at least one country other than the United States, or §119(e) of any United States provisional application(s), listed below and have also identified below any foreign applications for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; text-align: center;"><u>15728/1997</u></td> <td style="width: 33%; text-align: center;"><u>Republic of Korea</u></td> <td style="width: 33%; text-align: center;"><u>26 April 1997</u></td> </tr> <tr> <td style="text-align: center;">(Application Number)</td> <td style="text-align: center;">(Country)</td> <td style="text-align: center;">(Day/Month/Year filed)</td> </tr> </table> <p style="text-align: right;">Priority Claimed: Yes [X] No []</p>		<u>15728/1997</u>	<u>Republic of Korea</u>	<u>26 April 1997</u>	(Application Number)	(Country)	(Day/Month/Year filed)
<u>15728/1997</u>	<u>Republic of Korea</u>	<u>26 April 1997</u>					
(Application Number)	(Country)	(Day/Month/Year filed)					
<p>I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.</p> <p>I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.</p>							

Burden Hour Statement: This form is estimated to take 0.5 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

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I verily believe the original patent to be wholly or partly inoperative or invalid, for the reasons described below.
(Check all boxed that apply.)

- ☒ by reason of a defective specification or drawings.
- ☒ by reason of the patentee claiming more or less than he had the right to claim in the patent.
- ☒ by reason of other errors.

At least one error upon which reissue is based is described as follows:

Pursuant to 37 C.F.R. §1.175, Applicant believes the original aforesaid patent to be wholly or partly inoperative by reason of a defective specification or drawings, or by reason of the patentee claiming more or less than the patentee had the right to claim in the patent, or by reason of other errors.

As to the drawings and specification, it is Applicant's intent and desire to clarify the circuitry as to tilt correcting signal circuitry with respect to the tilt correcting coil 50, as illustrated in new Fig. 1A, in view of the disclosure at column 3, lines 20-64 of the original aforesaid patent. New Fig. 1A has been added and the specification has been amended to more clearly set forth circuitry including tilt correcting signal circuitry, identified in new Fig. 1A by the numeral 60, for outputting a signal or withholding a signal in relation to enabling or not enabling tilt correction by the tilt correcting coil 50, in view of the disclosure of the original aforesaid patent, for example, at column 3, lines 20 to column 4, line 56. Also, Fig. 2 has been amended to grammatically place Fig. 2 in better form.

Applicant also believes the original aforesaid patent to be wholly or partly inoperative by reason of his claiming more or less than he had a right to claim in the original aforesaid patent and, more specifically, by failing to more broadly claim Applicant's inventions as disclosed and described in the original aforesaid patent.

Specifically, the specification sets forth methods and apparatus for controlling power consumption of a tilt correcting coil utilizing circuitry that provides a signal or withholds a signal in relation to a power supply mode, normal or reduced power consumption, an activity state, or horizontal and vertical synchronizing signals, in view of the disclosure of the original aforesaid patent at column 1, line 35 through column 4, line 56, and claims have been added in this regard.

Also, claims have been added directed to a computer storage medium including instructions for implementing a method for controlling power consumption in a tilt correcting coil, in view of the disclosure in the original aforesaid patent with respect to Fig. 2 and the microcomputer 20, such as at column 3, line 65-column 4, line 56 of the original aforesaid patent.

Accordingly, it is Applicant's intent and desire to obtain broader coverage of his inventions as defined by the newly presented claims 13 through 57 in this reissue application, in addition to the claim coverage of claims 1 through 12 of the original aforesaid patent.

Further, it is Applicant's intent to clarify the patent claims in the original aforesaid patent, particularly to correct an error in claim 11 with respect to the positive input terminal of the second amplifier being connected to an output terminal of the first amplifier, and to clarify claim 12 to recite the tilt correcting pulse width modulated signal in accordance with the tilt correcting value, as well as other clarifying corrections, such as in claims 8, 9, and 11.

(REISSUE APPLICATION DECLARATION BY THE ASSIGNEE, page 2)				Docket Number (optional) P55057RE	
<p>All errors corrected by this reissue application arose without any deceptive intent on the part of the Applicant. I offer to surrender the original grant of the patent, unless that patent is lost or has become unavailable. I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.</p>					
Name(s) Robert E. Bushnell				Registration Number 27,774	
Correspondence Address: Direct all communications about the application to:					
<input type="checkbox"/> Customer Number 008-439 → <i>Place Customer Number Bar Code Label Here</i>					
<i>Type Customer Number Here</i>					
OR					
<input checked="" type="checkbox"/> Firm or Individual Name		ROBERT E. BUSHNELL AND LAW FIRM			
Address		1522 K Street, N.W., Suite 300,			
City	Washington	State	D.C.	Zip	20005-1202
Country	U.S.A.				
Telephone	(202) 408-9040				
<p>The undersigned officer of the Assignee, is duly authorized to make this Declaration, and has examined the documents of title, and determined that Samsung Electronics Co., Ltd., the assignee of U.S. Patent No. 6,141,627 by virtue of an Assignment from all inventors recorded in the U.S. Patent & Trademark Office at Reel No. 9323, at Frame No. 0219 on the 20th day of July 1998, consents to the filing of this reissue application for the reissue of U.S. Patent No. 6,141,627.</p> <p>I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and imprisonment, or both, under 18 U.S.C. 1001, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this declaration is directed.</p>					
Full name of person signing (given name, family name)				YONG-TAE LEE	
Signature <i>Yong Tae Lee</i>				Date Dec. 11, 2001	
Address of Assignee 416 Maetan-dong, Paldal-gu, Suwon-city, Kyungki-do, Republic of KOREA					
Patentee YEO-CHANG YOON				Citizenship	
Residence/Post Office Address: 959-16, Bangbae2-dong, Seocho-gu, Seoul, Republic of Korea					
Patentee				Citizenship	
Residence/Post Office Address					

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

REISSUE APPLICATION DECLARATION BY THE INVENTORDocket Number (Optional)
P55057RE

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is described and claimed in patent number 6,141,627, granted on October 31, 2000, and for which a reissue patent is sought on the invention entitled METHOD AND APPARATUS FOR CONTROLLING POWER CONSUMPTION IN A TILT CORRECTING COIL, the specification of which

☒ is attached hereto, and is being amended in the Preliminary Amendment filed concurrently with this reissue application.

☐ was filed on _____ As reissue application number ____ / _____, and was amended on _____.

(If applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to patentability and to the examination of this application in accordance with Title 37 of the Code of Federal Regulations §1.56. I hereby claim foreign priority benefits under Title 35, U.S. Code §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT International application which designated at least one country other than the United States, or §119(e) of any United States provisional application(s), listed below and have also identified below any foreign applications for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Priority Claimed:

15728/1997
(Application Number)Republic of Korea
(Country)26 April 1997
(Day/Month/Year filed)

Yes [X] No []

I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I verily believe the original patent to be wholly or partly inoperative or invalid, for the reasons described below. (Check all boxes that apply.)

- ☒ by reason of a defective specification or drawings.
- ☒ by reason of the patentee claiming more or less than he had the right to claim in the patent.
- ☒ by reason of other errors.

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Pursuant to 37 C.F.R. §1.175, Applicant believes the original aforesaid patent to be wholly or partly inoperative by reason of a defective specification or drawings, or by reason of the patentee claiming more or less than the patentee had the right to claim in the patent, or by reason of other errors.

(Page 1/3)

As to the drawings and specification, it is Applicant's intent and desire to clarify the circuitry as to tilt correcting signal circuitry with respect to the tilt correcting coil 50, as illustrated in new Fig. 1A, in view of the disclosure at column 3, lines 20-64 of the original aforesaid patent. New Fig. 1A has been added and the specification has been amended to more clearly set forth circuitry including tilt correcting signal circuitry, identified in new Fig. 1A by the numeral 60, for outputting a signal or withholding a signal in relation to enabling or not enabling tilt correction by the tilt correcting coil 50, in view of the disclosure of the original aforesaid patent, for example, at column 3, lines 20 to column 4, line 56. Also, Fig. 2 has been amended to grammatically place Fig. 2 in better form.

Applicant also believes the original aforesaid patent to be wholly or partly inoperative by reason of his claiming more or less than he had a right to claim in the original aforesaid patent and, more specifically, by failing to more broadly claim Applicant's inventions as disclosed and described in the original aforesaid patent.

Specifically, the specification sets forth methods and apparatus for controlling power consumption of a tilt correcting coil utilizing circuitry that provides a signal or withholds a signal in relation to a power supply mode, normal or reduced power consumption, an activity state, or horizontal and vertical synchronizing signals, in view of the disclosure of the original aforesaid patent at column 1, line 35 through column 4, line 56, and claims have been added in this regard.

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Further, it is Applicant's intent to clarify the patent claims in the original aforesaid patent, particularly to correct an error in claim 11 with respect to the positive input terminal of the second amplifier being connected to an output terminal of the first amplifier, and to clarify claim 12 to recite the tilt correcting pulse width modulated signal in accordance with the tilt correcting value, as well as other clarifying corrections, such as in claims 8, 9, and 11.

(REISSUE APPLICATION DECLARATION BY THE INVENTOR, page 3)

Docket Number (Optional)
P55057RE

All errors corrected in this reissue application arose without any deceptive intention on the part of the applicant. As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

Name(s): Robert E. BushnellRegistration Number: 27,774

Correspondence Address: Direct all communication about the application to:

☐ Customer Number 008-439 →

Type Customer Number Here

Place Customer Number,

OR

Bar Code Label Here

<input checked="" type="checkbox"/> Firm or individual Name	ROBERT E. BUSHNELL AND LAW FIRM				
Address	1522 K Street, N.W., Suite 300,				
City	Washington	State	D.C.	ZIP	20005-1202
Country	U.S.A.				
Telephone	(202) 408-9040	Fax	(202) 628-0755		
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and imprisonment, or both, under 18 U.S.C. 1001, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this declaration is directed.					
Full name of sole or first inventor (given name, family name)					
YEO-CHANG YOON					
Inventor's signature					
Yeo Chang Yoon					
Residence:			Date		
959-16, Bangbae2-dong, Seocho-gu, Seoul, Republic of Korea			December 11, 2001		
Post Office Address:			Citizenship:		
Same as above			Republic of Korea		
Full name of sole or first inventor (given name, family name)					
Inventor's signature					
Residence			Date		
Post Office Address			Citizenship		
<input type="checkbox"/> Additional joint inventors are named on separately numbered sheets attached hereto.					

P55057RE (REISSUE) 20 December 2001

Applicant: YEO-CHANG YOON

S.N.: *to be assigned*

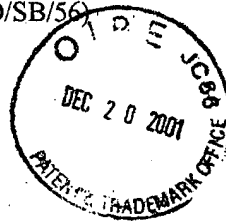
Original Patent No.: 6,141,627 issued on 31 October 2000

Filed: 20 December 2001

For: *METHOD AND APPARATUS FOR CONTROLLING POWER*

Document(s) filed:

1. Reissue Patent Application Transmittal (PTO/SB/50)
2. Clean copy of U.S. Patent No. 6,141,627
3. Request for Approval of Drawing Changes and Figs. 1A and 2 (amended)
4. Reissue Application Declaration by the Assignee in combination with Declaration as to Loss of Letters Patent (PTO/SB/52); Reissue Application Declaration by the Inventor (PTO/SB/51)...both executed ... & Transmittal of Declarations
5. Information Disclosure Statement & three (3) references cited in the IDS
6. Reissue Application Fee Transmittal Form (PTO/SB/56)
7. Check #40782 for \$2,666.00 & Fee Transmittal
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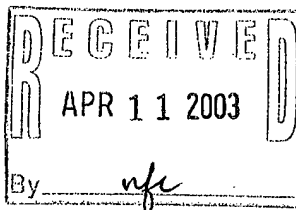
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REB

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,211	12/20/2001	Yeo-Chang Yoon	P55057RE	3780

8439 7590 04/08/2003

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EXAMINER

VO, HIEN XUAN

ART UNIT PAPER NUMBER

2863

DATE MAILED: 04/08/2003

O-A. Due

8 July 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/022,211	YOON, YEO-CHANG	
	Examiner	Art Unit	
	Hien X. Vo	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.138(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 08 March 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/066,532.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> | 6) <input type="checkbox"/> Other: |

Serial No.: 10/022,211
Art Unit: 2863

2

DETAILED ACTION

Reissue Applications

1. This application has been examined. Claims 1-57 are pending.
2. The prior art submitted on 12/20/2001 has been considered as indicated on the enclosed copies of Form PTO-1449.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details..

Serial No.: 10/022,211
Art Unit: 2863

3

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

the Abstract is too long, not in within the range of 50 to 150 words, the word "disclosed" should be avoided. Appropriate correction is required.

4. This application is objected to under 37 CFR 1.172(a) as lacking the written consent of all assignees owning an undivided interest in the patent. The consent of the assignee must be in compliance with 37 CFR 1.172. See MPEP § 1410.01.

A proper assent of the assignee in compliance with 37 CFR 1.172 and 3.73 is required in reply to this Office action.

Applicant is notified that all amendments to the specification and/or claims must comply with 37 CFR 1.173(b). In this case the amendment submitted on 12/20/2001 fail to follow 37 CFR 1.173.

5. Claims 1-57 rejected under 35 U.S.C. 251 as being based upon new matter added to the patent for which reissue is sought. The added material which is not supported by the prior patent is as follows:

a computer storage medium including a stored set of

Serial No.: 10/022,211
Art Unit: 2863

4

instructions for implementing a method of controlling power consumption in a tilt correcting coil of a monitor.

6. Claims 1-57 rejected under 35 U.S.C. 251 as being improperly broadened in a reissue application made and sworn to by the assignee and not the patentee. A claim is broader in scope than the original claims if it contains within its scope any conceivable product or process which would have infringed the original patent. A claim is broadened if it is broader in any one respect even though it may be narrower in other respects.

Conclusion

7. All claims are rejected.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Hien Vo, whose telephone number is (703)308-5253. The examiner can normally be reached on Monday-Friday from 9:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow, can be reached on (703)308-3126.

Any response to this action should be mailed to:

Serial No.: 10/022,211
Art Unit: 2863

5

Commissioner of Patents and Trademarks
Washington, D.C. 20231

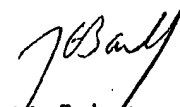
or faxed to:

(703) 308-7382 (for informal or draft
communications, please label "PROPOSED" or
"DRAFT")

Hand-delivered responses should be brought to Crystal Plaza 4, Arlington, VA.,
Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of
this application should be directed to the Group receptionist
whose telephone number is (703) 308-0956.

HIEN VO
April 07, 2003


John Barlow
Supervisory Patent Examiner
Technology Center 2800

10/022211



Patent and Trademark Office

Address: ASSISTANT COMMISSIONER FOR PATENTS

Washington, D.C. 20231

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
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EXAMINER

ART UNIT	PAPER
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6

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

INFORMATION DISCLOSURE STATEMENT PTO-1449 (PAGE 1 OF 1)	SERIAL NUMBER	DOCKET NO. P55057RE
	APPLICANT YEO-CHANG YOON	
	FILING DATE 20 December 2001	GROUP

J1 046 U.S. PTO
 10/022211
 12/20/01

U.S. PATENT DOCUMENTS

EXAMINER	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
VX/H	5,021,712	6/91	Sands et al.			
VX/H	4,296,359	10/81	Dodds			
VX/H	4,899,082	2/90	Sands et al.			

FOREIGN PATENT DOCUMENTS						TRANSLATION	
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

EXAMINER: Hien Vo	DATE CONSIDERED: 4/1/03
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP §609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

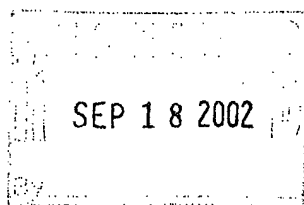


UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 20231
www.uspto.gov

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
10/022,211	12/20/2001	2854	2666	P55057RE	3	57	18

008439
ROBERT E. BUSHNELL
1522 K STREET NW
SUITE 300
WASHINGTON, DC 200051202



CONFIRMATION NO. 3780

CORRECTED FILING RECEIPT



OC000000008755589

Date Mailed: 09/10/2002

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Yeo-Chang Yoon, Seoul, KOREA, REPUBLIC OF;

Domestic Priority data as claimed by applicant

THIS APPLICATION IS A REI OF 09/066,532 04/27/1998 PAT 6,141,627

Foreign Applications

REPUBLIC OF KOREA P97-15728 04/26/1997

If Required, Foreign Filing License Granted 02/26/2002

Projected Publication Date: Not Applicable

Non-Publication Request: No

Early Publication Request: No

Title

Method and apparatus for controlling power consumption in a tilt correction coil

Preliminary Class

702

**LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15**

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

P55057RE

8 March 2002

Applicant: YEO-CHANG YOON
Serial No.: 10/022,211
Filed: 20 December 2001
For: *METHOD AND APPARATUS FOR CONTROLLING POWER
CONSUMPTION IN A TILT CORRECTION COIL*

Document filed:

1. Request for Corrected Official Filing Receipt
2. A copy of Filing Receipt
3. A copy of 3 sheets of drawings

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

YEO-CHANG YOON

Serial No.: 10/022,211

Examiner: To be assigned

Filed: 20 December 2001

Art Unit: 2854

For: *METHOD AND APPARATUS FOR CONTROLLING POWER CONSUMPTION IN
A TILT CORRECTION COIL*

REQUEST FOR CORRECTED OFFICIAL FILING RECEIPT

The Assistant Commissioner for Patents
Office of Initial Patent Examination
Customer Service Center
Washington, DC 20231

Sir:

The attorney for the Applicant notes that the Official Filing Receipt dated 27 February 2002 and received by his office on 7 March 2002 for the above-referenced Application has errors in the number of drawings. Accordingly, entry of the following data is respectfully requested:

1) Please correct the number of drawing from "2" to - - 3 - - .

To support this request, enclosed are copies of a Filing Receipt, and 3 sheets of drawings.

Respectfully submitted,

1522 "K" Street, N.W., Suite 300
Washington, DC 20005
(202) 408-9040

Robert E. Bushnell, Esq.
Attorney for Applicant
Reg. No.: 27,774

Enclosures: Copies of a Filing Receipt and 3 sheets of drawings.

Folio: P55057
Date: 3/8/02
I.D.: REB/ahm



UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 20231
www.uspto.gov

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	DRAWINGS	TOT CLAIMS	IND CLAIMS
10/022,211	12/20/2001	2854	2666	P55057RE	2-3	57	18

CONFIRMATION NO. 3780

008439
ROBERT E. BUSHNELL
1522 K STREET NW
SUITE 300
WASHINGTON, DC 200051202

FILING RECEIPT



OC00000007542830

MAR 07 2002

rtc

Date Mailed: 02/27/2002

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

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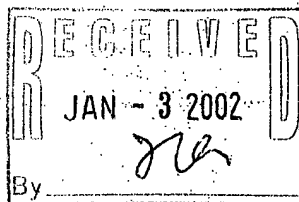
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P55057RE (REISSUE) 20 December 2001

Applicant: YEO-CHANG YOON.

S.N.: *to be assigned*

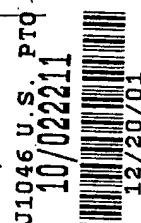
Original Patent No.: 6,141,627 issued on 31 October 2000

Filed: 20 December 2001

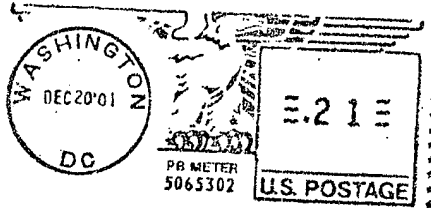
For: **METHOD AND APPARATUS FOR CONTROLLING POWER**

Document(s) filed:

1. Reissue Patent Application Transmittal (PTO/SB/50)
2. Clean copy of U.S. Patent No. 6,141,627
3. Request for Approval of Drawing Changes and Figs. 1A and 2 (amended)
4. Reissue Application Declaration by the Assignee in combination with Declaration as to Loss of Letters Patent (PTO/SB/52); Reissue Application Declaration by the Inventor (PTO/SB/51)...**both executed** ... & Transmittal of Declarations
5. Information Disclosure Statement & three (3) references cited in the IDS
6. Reissue Application Fee Transmittal Form (PTO/SB/56)
7. Check #40782 for \$2,666.00 & Fee Transmittal
8. This post card



Please Hold For Serial No.



ROBERT E. BUSHNELL AND LAW FIRM
1522 K Street, N.W., Suite 300
Washington, D.C., 20005-1202
Telephone No.: (202) 408-9040

P55057RE (REISSUE) 20 December 2001

Applicant: YEO-CHANG YOON

S.N.: *to be assigned*

Original Patent No.: 6,141,627 issued on 31 October 2000

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P55057RE (REISSUE) 20 December 2001

Applicant: YEO-CHANG YOON

S.N.: *to be assigned*

Original Patent No.: 6,141,627 issued on 31 October 2000

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7. Check #40782 for \$2,666.00 & Fee Transmittal
8. This post card

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

FEE TRANSMITTAL

Patent fees are subject to annual revision.

Complete If Known

Original Patent No.	6,141,627 (31 October 2000)
Filing Date	20 December 2001
First Named Inventor	Yeo-Chang YOON
Examiner Name	to be assigned
Group/Art Unit	to be assigned
Attorney Docket No.	P55057RE

TOTAL AMOUNT OF PAYMENT (\$ 2,666.00)**METHOD OF PAYMENT (check one)**

- 1.
- ☐
- The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:

Deposit Account Number: 02-4943
Deposit Account Number: _____☐ Charge Any Additional Fee Required Under 37 C.F.R. §1.16 and 1.17.☐ Applicant claims small entity status. See 37 CFR 1.27**2. Payment Enclosed:**

(CHECK #40782)

☒ Check ☐ Credit Card ☐ Money Order ☐ Other**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
101	740	201	370	Utility filing fee	\$
106	330	206	165	Design filing fee	\$
107	510	207	255	Plant filing fee	\$
108	740	208	370	Reissue filing fee	\$740.00
114	160	214	80	Provisional filing fee	\$

SUBTOTAL (1) (\$ 740.00)**2. EXTRA CLAIM FEES**

	Extra Claims	Fee from below	Fee Paid
Total claims	57	-20** = 37	x 18 = 666.00
Independent Claims	18	-3** = 15	x 84 = 1260.00

Multiple Dependent =

** or number previously paid, if greater; For Reissues, see below

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description
103	18	203	9	Claims in excess of 20
102	84	202	42	Independent claims in excess of 3
104	280	204	140	Multiple dependent claim, if not paid
109	84	209	42	** Reissue independent claims over original patent
110	18	210	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$ 1,926.00)**FEE CALCULATION (continued)****3. ADDITIONAL FEES**

Large Entity Fee Code	Large Entity Fee (\$)	Small Entity Fee Code	Small Entity Fee (\$)	Fee Description	Fee Paid
105	130	205	65	Surcharge-late filing fee or oath	\$
127	50	227	25	Surcharge-late provisional filing fee or cover sheet	\$
130	130	130	130	Non-English Specification	\$
147	2,520	147	2,520	For filing a request for reexamination	\$
112	920	112	920	Requesting publication of SIR prior to Examiner action	\$
113	1,840	113	1,840	Requesting publication of SIR after Examiner action	\$
115	110	215	55	Extension for reply within first month	\$
116	400	216	200	Extension for reply within second month	\$
117	920	217	460	Extension for reply within third month	\$
118	1,440	218	720	Extension for reply within fourth month	\$
128	1,960	228	980	Extension for reply within fifth month	\$
119	320	219	160	Notice of Appeal	\$
120	320	220	160	Filing a brief in support of an appeal	\$
121	280	221	140	Request for oral hearing	\$
138	1,510	138	1,510	Petition to institute a public use proceeding	\$
140	110	240	55	Petition to revive - unavoidable	\$
141	1,280	241	640	Petition to revive - unintentional	\$
142	1,280	242	640	Utility issue fee (or reissue)	\$
143	480	243	230	Design issue fee	\$
144	620	244	310	Plant issue fee	\$
122	130	122	130	Petitions to the Commissioner	\$
123	50	123	50	Processing fee for provisional applications	\$
126	180	126	180	Submission of Information Disclosure Statement	\$
581	40	581	40	Recording each patent assignment per property (Times number of properties)	\$
148	740	248	370	Filing a submission after final rejection (37 C.F.R. §1.129(e))	\$
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REISSUE PATENT APPLICATION TRANSMITTAL

Address to: Assistant Commissioner for Patents Box: Patent Application Washington, DC 20231	<i>Attorney Docket No.</i>	P55057RE
	<i>First Named Inventor</i>	YEO-CHANG YOON
	<i>Original Patent Number</i>	6,141,627
	<i>Original Patent Issue Date (Month/Day/Year)</i>	October 31, 2000
	<i>Express Mail Label No.</i>	

1. ☒ APPLICATION FOR REISSUE OF: (check applicable box) ☒ Utility Patent ☐ Design Patent ☐ Plant Patent

APPLICATION ELEMENTS (37 CFR 1.173)	ACCOMPANYING APPLICATION PARTS
1. <input checked="" type="checkbox"/> Fee Transmittal Form (PTO/SB/56) <i>(Submit an original, and a duplicate for fee processing)</i> 2. <input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. 3. <input checked="" type="checkbox"/> Specification and Claims in double column copy of patent <i>(amended, if appropriate)</i> 4. <input checked="" type="checkbox"/> Drawing(s) <i>(proposed amendments, if appropriate)</i> 5. <input checked="" type="checkbox"/> Reissue Oath/Declaration (executed) <i>(37 C.F.R. §1.175)(PTO/SB/51 or 52)</i> 6. <input checked="" type="checkbox"/> Original U.S. Patent currently assigned? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(If Yes, check applicable box(es))</i> <input checked="" type="checkbox"/> Written Consent of all Assignees (PTO/SB/53) <i>-combined in Declaration</i> <input checked="" type="checkbox"/> 37 C.F.R. §3.73(b) Statement <input checked="" type="checkbox"/> Power of Attorney (PTO/SB/96) <i>-combined in Declaration</i>	7. <input checked="" type="checkbox"/> Statement of status/support for all changes to the claims. See 37 CFR 1.173(c). -combined in Declaration 8. <input checked="" type="checkbox"/> Original U.S. patent for surrender <input type="checkbox"/> Ribboned Original Patent Grant <input checked="" type="checkbox"/> Statement of Loss (PTO/SB/55)- -combined in Declaration 9. <input type="checkbox"/> Foreign Priority Claim (35 U.S.C. 119) <i>(If applicable)</i> 10. <input checked="" type="checkbox"/> Information Disclosure Statement (IDS) PTO-1449 <input checked="" type="checkbox"/> Copies of IDS Citations 11. <input type="checkbox"/> English Translation of Reissue Oath/Declaration <i>(If applicable)</i> 12. <input checked="" type="checkbox"/> Preliminary Amendment 13. <input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503) <i>(Should be specifically itemized)</i> 14. <input checked="" type="checkbox"/> Other: <u>Reissue Application Fee Transmittal Form</u> <u>Check #40782 for \$2,666.00</u>

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REISSUE APPLICATION FEE TRANSMITTAL FORM

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P55057RE

Claims as Filed - Part 1

Claims in Patent	For	Number filed in Reissue Application	(3) Number Extra	Small Entity		Other than a Small Entity		
				Rate	Fee	Rate	Fee	
(A) 12	Total Claims (37 CFR 1.16(j))	(B) 57	****	×\$ ____ =		or	×\$ 18 =	666.00
(C) 3	Independent Claims (37 CFR 1.16 (i))	(D) 18	*				×\$ 84 =	1,260.00
Basic Fee (37 CFR 1.16(h))					\$ ____	OR	\$ 740.00	
Total Filing Fee					\$ ____		\$ 2,666.00	

Claims as Filed - Part 2

	(1) Claims Remaining After Amendment		(2) Highest Number Previously Paid For	(3) Extra Claims Present	Small Entity		Other than a Small Entity	
					Rate	Fee	Rate	Fee
Total Claims (37 CFR 1.16(j))	***	MINUS	**	*	×\$ ____ =		or	×\$ ____ =
Independent (37 CFR 1.16(i))	***	MINUS	*****	0	×\$ ____ =			×\$ ____ =
Total Additional Fee					\$ ____	OR	\$ ____	

* If the entity in (D) is less than the entity in (C), Write "0" in column 3.

** If the "Highest Number of Total Claims Previously Paid For" is less than 20, Write "20" in this space.

*** After any cancellation of claims.

**** If "A" is greater than 20, use (B-A); if "A" is 20 or less, use (B-20).

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20 December 2001

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Signature of Applicant, Attorney or Agent of Record

Robert E. Bushnell

Typed or printed name



US006141627A

United States Patent [19]
Yoon

[11] **Patent Number:** **6,141,627**[45] **Date of Patent:** **Oct. 31, 2000**

[54] **METHOD AND APPARATUS FOR
CONTROLLING POWER CONSUMPTION IN
A TILT CORRECTING COIL**

[75] **Inventor:** Yeo Chang Yoon, Seoul, Rep. of Korea[73] **Assignee:** Samsung Electronics Co., Ltd.,
Kyungki-do, Rep. of Korea[21] **Appl. No.:** 09/066,532[22] **Filed:** Apr. 27, 1998[30] **Foreign Application Priority Data**

Apr. 26, 1997 [KR] Rep. of Korea 97-15728

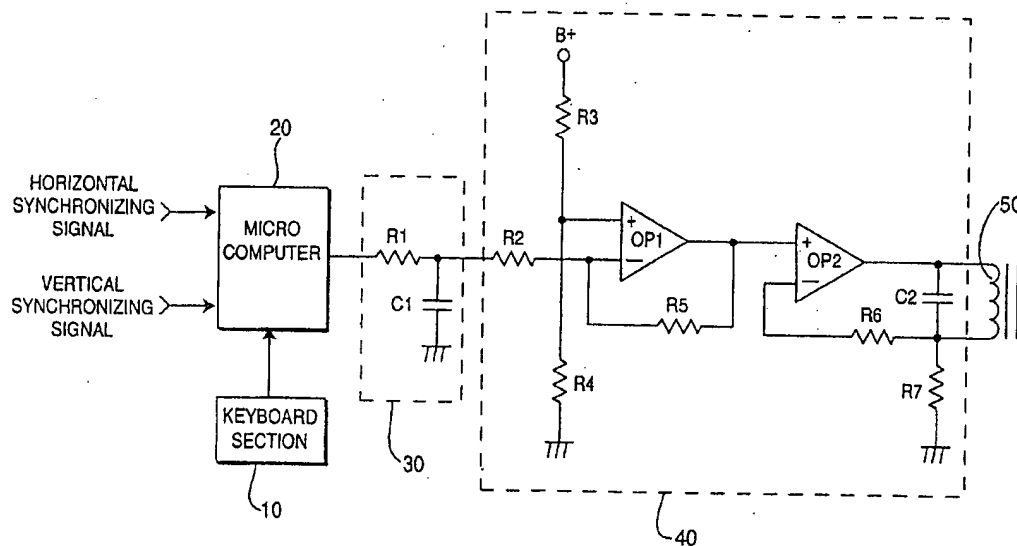
[51] **Int. Cl.⁷** H01J 29/56[52] **U.S. Cl.** 702/89; 315/8; 315/368.21;
315/371[58] **Field of Search** 702/89; 713/323,
713/322, 324; 315/8, 364, 368.21, 370,
371[56] **References Cited****U.S. PATENT DOCUMENTS**

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Primary Examiner—Marc S. Hoff*Assistant Examiner*—Hien Vo*Attorney, Agent, or Firm*—Robert E. Bushnell, Esq.[57] **ABSTRACT**

A method for controlling the power consumption in a tilt correcting coil is disclosed. The power consumption is corrected in the tilt correcting coil for correcting the tilt of the images of the cathode ray tube. If a microcomputer judges that the mode is the on-state mode, then the microcomputer outputs a tilt correcting PWM signal in accordance with the user's inputting. Then the output tilt correcting PWM signal is converted into a dc voltage, and the level is adjusted. Then the signal is supplied to the tilt correcting coil, so that the tilt of the image on the screen would be corrected. In the cases of the standby mode, the suspend mode and/or the power-off mode, the microcomputer outputs a signal which has a function of minimizing the power consumption of the tilt correcting coil. Therefore, the tilt of the image of the screen is corrected in the normal manner. On the other hand, in the cases of the standby mode, the suspend mode and/or the power-off mode, the tilt correcting coil does not consume any power, thereby satisfying the power consumption definition of the power-off mode.

12 Claims, 2 Drawing Sheets

METHOD AND APPARATUS FOR CONTROLLING POWER CONSUMPTION IN A TILT CORRECTING COIL

CLAIM OF PRIORITY

This application makes reference to, incorporates the same herein, and claims all benefits accruing under 35 U.S.C. §119 from an application entitled *Method For Controlling Power Consumption In Tilt Correcting Coil* earlier filed in the Korean Industrial Property Office on Apr. 26, 1997, and there duly assigned Serial No. 15728/1997.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a monitor which includes a cathode ray tube as an image displaying device, and is a peripheral equipment of a computer system, and more particularly, the present invention relates to a method and apparatus for controlling the power consumption in a tilt correcting coil for correcting the tilt of the images of the cathode ray tube, in which the power consumption is corrected in the tilt correcting coil.

2. Description of Related Art

Generally, a monitor is a peripheral equipment which makes it possible for the user to monitor and confirm the operating state of the computer system. The computer system outputs data signals indicative of the current operation, while the monitor receives the data signals to display them on the screen of the cathode ray tube. When the monitor displays the data signals as image signals on the screen, horizontal and vertical synchronizing signals are utilized. Therefore, the computer system outputs horizontal and vertical synchronizing signals as well as data signals.

When the user leaves the computer system for a while to take a break or perform some other business, the computer system remains with the power turned on. Thus, when the computer system is idle, as in the above described case, the computer system consumes more power than necessary. Therefore, conventional computer systems monitor the activity of a keyboard, a mouse or modem to determine whether the user is using the computer system.

When it is determined that the keyboard and/or mouse have remained inactive for a predetermined time period, power consumption is reduced based on the time period of inactivity. That is, the computer system is sequentially operated in several power modes depending on the time period of inactivity. In an on-state mode during user activity normal power consumption occurs, during periods of inactivity power consumption is reduced by sequentially operating in a standby mode, a suspend mode and a power-off mode. When the activity of the keyboard and/or mouse is again detected, the on-state mode of the computer system is resumed.

Meanwhile, the Video Electronics Standard Association (VESA) of the United States proposes a display power management system (DPMS) which is capable of managing the monitor power for the current mode and capable of reducing power consumption. The DPMS is capable of managing the power supplied to the respective sections of the computer based on the state of use (activity state) of the computer system. The computer system selectively outputs horizontal and vertical synchronizing signals in accordance with the power supply mode of the DPMS.

The monitor operates under an on-state mode, a standby mode, a suspend mode or a power-off mode in accordance

with the presence or absence of the horizontal and vertical synchronizing signals. That is, when both the horizontal and vertical synchronizing signals are output, the monitor operates under the on-state mode. When the horizontal synchronizing signals are not output, but only the vertical synchronizing signals are output, the monitor operates under the standby mode. When the vertical synchronizing signals are not output, but only the horizontal synchronizing signals are output, the monitor operates under the suspend mode. When neither the horizontal nor vertical synchronizing signals are output, the monitor operates under the power-off mode.

When the monitor operates under the on-state mode, power consumption of the monitor is about 80-100 W. Under the standby mode, it is about 65 W or less. Under the suspend mode, it is about 25 W or less. Under the power-off mode, it is about 5 W or less.

When the monitor displays images on the screen, the images can be tilted due to a deflection inaccuracy or the like. Therefore, the neck portion of the cathode ray tube is provided with a tilt correcting coil together with deflection coils to generate deflection magnetic fields. Owing to the function of this tilt correcting coil, the images are displayed on the screen in a correct form.

In the above described monitor, conventionally, the tilt correcting coil receives tilt correcting signals continuously to correct the tilts of the images, regardless of the DPMS modes. The power consumption of the tilt correcting coil is pretty high. That is, it is as high as 2-3 W. Therefore, under the power-off mode, the power consumption definition of the DPMS cannot be satisfied due to the power consumption of the tilt correcting coil.

Further, under the standby mode and the suspend mode, no image is displayed on the screen. However, the tilt correcting coil receives the tilt correcting signals continuously, with the result that power is squandered.

SUMMARY OF THE INVENTION

The present invention is intended to overcome the above described disadvantages of the conventional technique.

Therefore it is an object of the present invention to provide a method for controlling the power consumption in a tilt correcting coil, in which the power consumption in the tilt correcting coil is eliminated when the DPMS mode is one of the standby mode, the suspend mode, and the power-off mode.

It is another object of the present invention to provide an apparatus for controlling the power consumption in a tilt correcting coil of a monitor operable in a DPMS mode, wherein the DPMS mode is one of a standby mode, suspend mode, and power-off mode, by preventing a tilt correcting pulse width modulated (PWM) signal from being provided to the tilt correcting coil.

In achieving the above objects, the present invention is characterized in that a microcomputer determines the current DPMS mode in accordance with the presence or absence of horizontal and vertical synchronizing signals input from the computer system. If the microcomputer determines that the mode is the on-state mode, then the microcomputer outputs the tilt correcting PWM signal. Then the output tilt correcting PWM signal is converted into a dc (direct current) voltage, and the level is adjusted. Then the signal is supplied to the tilt correcting coil, so that the tilt of the image on the screen is corrected. When it is determined that the DPMS mode is one of the standby mode, the suspend mode and the power-off mode, the microcomputer outputs a signal having a predetermined logic level for minimizing the power consumption of the tilt correcting coil.

Therefore, according to the present invention, the tilt of the image of the screen is corrected in the normal manner. On the other hand, in the cases of the standby mode, the suspend mode or the power-off mode, the tilt correcting coil does not consume any power, thereby satisfying the power consumption definition of the power-off mode.

BRIEF DESCRIPTION OF THE DRAWINGS

The above object and other advantages of the present invention will become more apparent by describing in detail the preferred embodiment of the present invention with reference to the attached drawings in which:

FIG. 1 illustrates an embodiment of a circuit to which the method for controlling the power consumption according to the present invention is applied; and

FIG. 2 is a signal flow chart showing the operation of the microcomputer of FIG. 1, which is used for controlling the power consumption according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. 1, a circuit for controlling the power consumption comprises: a microcomputer 20 for controlling the DPMS operations of a monitor in accordance with the presence and absence of horizontal and vertical synchronizing signals input from a computer system, and for setting a tilt correcting value for the images of the screen in accordance with key signals of a keyboard and outputting a tilt correcting pulse width modulated (PWM) signals; an integrator 30 for converting the tilt correcting PWM signals output from microcomputer 20 to dc voltages; a tilt correcting signal outputting section 40 for amplifying the output voltages of integrator 30 to output tilt correcting signals; and a tilt correcting coil 50 for correcting the tilt of the images of the screen in accordance with the output voltages of tilt correcting signal outputting section 40.

Integrator 30 includes a resistor R1 connected to a ground terminal via a capacitor C1. An output terminal of microcomputer 20 is connected to a resistor R2 of tilt correcting signal outputting section 40 via resistor R1.

Tilt correcting signal outputting section 40 is constituted as follows. An output terminal at the node connecting resistor R1 and capacitor C1 of the integrator 30 is connected via resistor R2 to an inverting input terminal (-) of an arithmetic amplifier OP1. A dividing circuit comprised of a resistor R3 and a resistor R4 connected in series between a power source B+ and the ground terminal. A connection node between resistors R3 and R4 is connected to a non-inverting input terminal (+) of the arithmetic amplifier OP1. An output terminal of the arithmetic amplifier OP1 is connected through a feedback resistor R5 to its inverting input terminal (-). At the same time, the output terminal of the arithmetic amplifier OP1 is also connected to a non-inverting input terminal (+) of another arithmetic amplifier OP2. An output terminal of the arithmetic amplifier OP2 is connected through a capacitor C2 to a grounding resistor R7. A connection node between capacitor C2 and resistor R7 is connected to the inverting input terminal (-) of arithmetic amplifier OP2 via a feedback resistor R6. Capacitor C2 is connected in parallel to tilt correcting coil 50. Accordingly, one terminal of tilt correcting coil 50 is connected to the output terminal of arithmetic amplifier OP2 and the other terminal of tilt correcting coil 50 is connected to the inverting terminal (-) of arithmetic amplifier OP2 via feedback resistor R6.

FIG. 2 is a signal flow chart showing the operation of microcomputer 20 which is used for controlling the power consumption according to the present invention.

At a step S1, once the computer system is initially started or after a resetting operation, microcomputer 20 receives horizontal and vertical synchronizing signals from the computer system in a normal on-state mode. At steps S2-S4, the microcomputer 20 determines whether horizontal and vertical synchronizing signals are being input from the computer system.

If horizontal synchronizing signals are found to be input at the step S2, and if vertical synchronizing signals are found to be input at the step S3, then it is determined that the computer system operates is operating under the on-state mode. Therefore, at a step S5, the on-state mode of the monitor is set, and at step S6, microcomputer 20 outputs the tilt correcting PWM signal having a duty ratio corresponding to a pre-set tilt correcting value. The tilt correcting PWM signal output from microcomputer 20 is converted into a dc voltage by integrator 30, and the dc voltage of the tilt correcting PWM signal is supplied through the resistor R2 of tilt correcting signal outputting section 40 to the inverting input terminal (-) of arithmetic amplifier OP1. The power source B+ is divided by resistors R3 and R4, and this divided voltage is supplied to the non-inverting input terminal (+) of arithmetic amplifier OP1. Then arithmetic amplifier OP1 compares the divided voltage with the dc voltage level output from integrator 30, amplifies it and inverts it. The output signal of arithmetic amplifier OP1 is amplified again by arithmetic amplifier OP2. Then it is supplied to tilt correcting coil 50, so that the tilt of the images on the screen can be corrected.

Meanwhile, if it is determined at step S2 that the horizontal synchronizing signals are input, and if it is determined at step S3 that vertical synchronizing signals are not input, then microcomputer 20 sets the monitor in the suspend mode at a step S7.

If it is determined at step S2 that the horizontal synchronizing signals are not input, then at step S4, it is determined whether or not the vertical synchronizing signals are input from the computer system. If it is determined at step S4 that vertical synchronizing signals are input, then microcomputer 20 sets the monitor in the standby mode at step S8. If it is determined that the vertical synchronizing signals are not input at step S4, then microcomputer 20 sets the monitor in the power-off mode at a step S9.

Following the steps of setting the monitor in the standby mode (S8), the suspend mode (S7) or the power-off mode (S9), then at step S10 microcomputer 20 withholds, or does not generate, the tilt correcting PWM signals. That is, microcomputer 20 outputs a high potential continuously. When microcomputer 20 outputs the continuous high potential, integrator 30 continuously outputs a high potential, and this high potential is supplied through resistor R2 of tilt correcting signal outputting section 40 to the inverting input terminal (-) of arithmetic amplifier OP1. Then arithmetic amplifier OP1 outputs a continuous low potential, and arithmetic amplifier OP2 outputs a low potential, with the result that no electric current flows through tilt correcting coil 50.

According to the present invention as described above, in the case of the standby mode, the suspend mode and/or the power-off mode, that is, if there is no image on the screen, no electric current flows through the tilt correcting coil. Consequently, the power consumption of the monitor is reduced, and the DPMS definition for the power-off mode can be satisfied as to its power consumption.

What is claimed is:

1. A method for controlling power consumption in a tilt correcting coil of a monitor connected to a computer, said method comprising the steps of:

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determining whether synchronization signals are received by said monitor from said computer;

operating said monitor in an on-state mode of a power supply mode of a display power management system (DPMS) when it is determined that said synchronization signals are received by said monitor;

providing a tilt correcting pulse width modulated signal to said tilt correcting coil when operating said monitor in said on-state mode;

operating said monitor in one of a suspend mode, a standby mode and a power-off mode of said power supply mode when it is determined that said synchronization signals are not received by said monitor; and preventing said tilt correcting pulse width modulated signal from being provided to said tilt correcting coil when operating said monitor in said one of said suspend, standby and power-off modes.

2. The method as set forth in claim 1, said step of determining whether synchronization signals are received by said monitor from said computer comprising the steps of:

determining whether a horizontal synchronization signal is received by said monitor; and then

determining whether a vertical synchronization signal is received by said monitor.

3. The method as set forth in claim 2, further comprising the steps of:

operating in said on-state mode when it is determined that both said horizontal and vertical synchronization signals are received by said monitor;

operating in said suspend mode when it is determined that said horizontal synchronization signal is received by said monitor and it is determined that said vertical synchronization signal is not received by said monitor;

operating in said standby mode when it is determined that said horizontal synchronization signal is not received by said monitor and it is determined that said vertical synchronization signal is received by said monitor; and

operating in said power-off mode when it is determined that said horizontal synchronization signal is not received by said monitor and it is determined that said vertical synchronization signal is not received by said monitor.

4. A method for controlling power consumption in a tilt correcting coil of a monitor connected to a computer, said monitor being operable in an on-state mode, a suspend mode and a power-off mode of a power supply mode of a display power management system (DPMS), said method comprising the steps of:

determining whether horizontal and vertical synchronization signals are received by said monitor from said computer;

operating said monitor in said on-state mode when it is determined that both of said horizontal and vertical synchronization signals are received by said monitor;

providing a tilt correcting pulse width modulated signal to said tilt correcting coil when operating said monitor in said on-state mode;

operating said monitor in one of said suspend and power-off modes when it is determined that at least one of said horizontal and vertical synchronization signals is not received by said monitor; and

preventing said tilt correcting pulse width modulated signal from being provided to said tilt correcting coil when operating said monitor in said one of said suspend and power-off modes.

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5. The method as set forth in claim 4, further comprising the steps of:

operating in said suspend mode when it is determined that said horizontal synchronization signal is received by said monitor and it is determined that said vertical synchronization signal is not received by said monitor;

operating in a standby mode when it is determined that said horizontal synchronization signal is not received by said monitor and it is determined that said vertical synchronization signal is received by said monitor; and

operating in said power-off mode when it is determined that said horizontal synchronization signal is not received by said monitor and it is determined that said vertical synchronization signal is not received by said monitor.

6. An apparatus for controlling power consumption in a tilt correcting coil of a monitor connected to a computer, said monitor being operable in any one of an on-state mode, a suspend mode, a standby mode and a power-off mode of a power supply mode of a display power management system (DPMS), said apparatus comprising:

a microcomputer in said monitor for receiving horizontal and vertical synchronizing signals output from said computer;

an integrator for receiving and converting a tilt correcting pulse width modulated signal output from said microcomputer into a direct current voltage signal;

a tilt correcting signal output circuit for outputting an amplified voltage signal by amplifying the direct current voltage signal output from said integrator, said amplified voltage signal being applied to said tilt correcting coil.

7. The apparatus as set forth in claim 6, said microcomputer outputting said tilt correcting pulse width modulated signal when both said of horizontal and vertical synchronizing signals are output from said computer.

8. The apparatus as set forth in claim 6, said microcomputer outputting a signal having a constant high logic level, when either one said of horizontal and vertical synchronizing signals are not output from said computer, for preventing said tilt correcting coil from consuming power.

9. The apparatus as set forth in claim 6, wherein said microcomputer determines said monitor is to operate in said on-state mode when both said of horizontal and vertical synchronizing signals are output from said computer, and determines said monitor is to operate in one of said suspend, standby and power-off modes when at least one said of horizontal and vertical synchronizing signals is not output from said computer;

said microcomputer outputting said tilt correcting pulse width modulated signal, when said monitor is determined to be operating in said on-state mode; and

said microcomputer outputting a signal having a constant high logic level, when said monitor is determined to be operating in one of said suspend, standby and power-off modes, for preventing said tilt correcting coil from consuming power.

10. The apparatus as set forth in claim 9, wherein said integrator outputs a direct current voltage signal having a high logic level when said microcomputer outputs said signal having a constant high logic level, and said tilt correcting signal output circuit outputs an amplified voltage signal having a constant low logic level in response to said direct current voltage signal having a high logic level.

11. The apparatus as set forth in claim 6, further comprising:

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said integrator comprising:
 a first resistor connected between a first node and said microcomputer, and a capacitor connected between said first node and a ground terminal;
 said tilt correcting signal output circuit comprising: 5
 a first amplifier having a negative input terminal, a positive input terminal and an output terminal;
 a second resistor connected between said first node and said negative input terminal;
 a dividing circuit connected between a power source 10 and said ground terminal for providing a divided voltage signal to said positive input terminal;
 a feedback resistor connected between said negative input terminal and said output terminal;
 a second amplifier having a negative input terminal, a 15 positive input terminal and an output terminal, said negative input terminal of said second amplifier being connected to said output terminal of said first amplifier;
 said output terminal of said second amplifier being 20 connected to a first terminal of said tilt correcting coil;

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a second capacitor connected between said first terminal of said tilt correcting coil and a second terminal of said tilt correcting coil;
 a grounding resistor connected between said second terminal of said tilt correcting coil and said ground terminal; and
 a second feedback resistor connected between said second terminal of said tilt correcting coil and said negative input terminal of said second amplifier.

12. The apparatus as set forth in claim 6, further comprising:

a keyboard connected to said microcomputer, said microcomputer setting a tilt correcting value for images on a screen of said monitor in accordance with key signals output from said keyboard and outputting said tilt correcting pulse width modulated (PWM) signals in accordance to said tilt correcting value.

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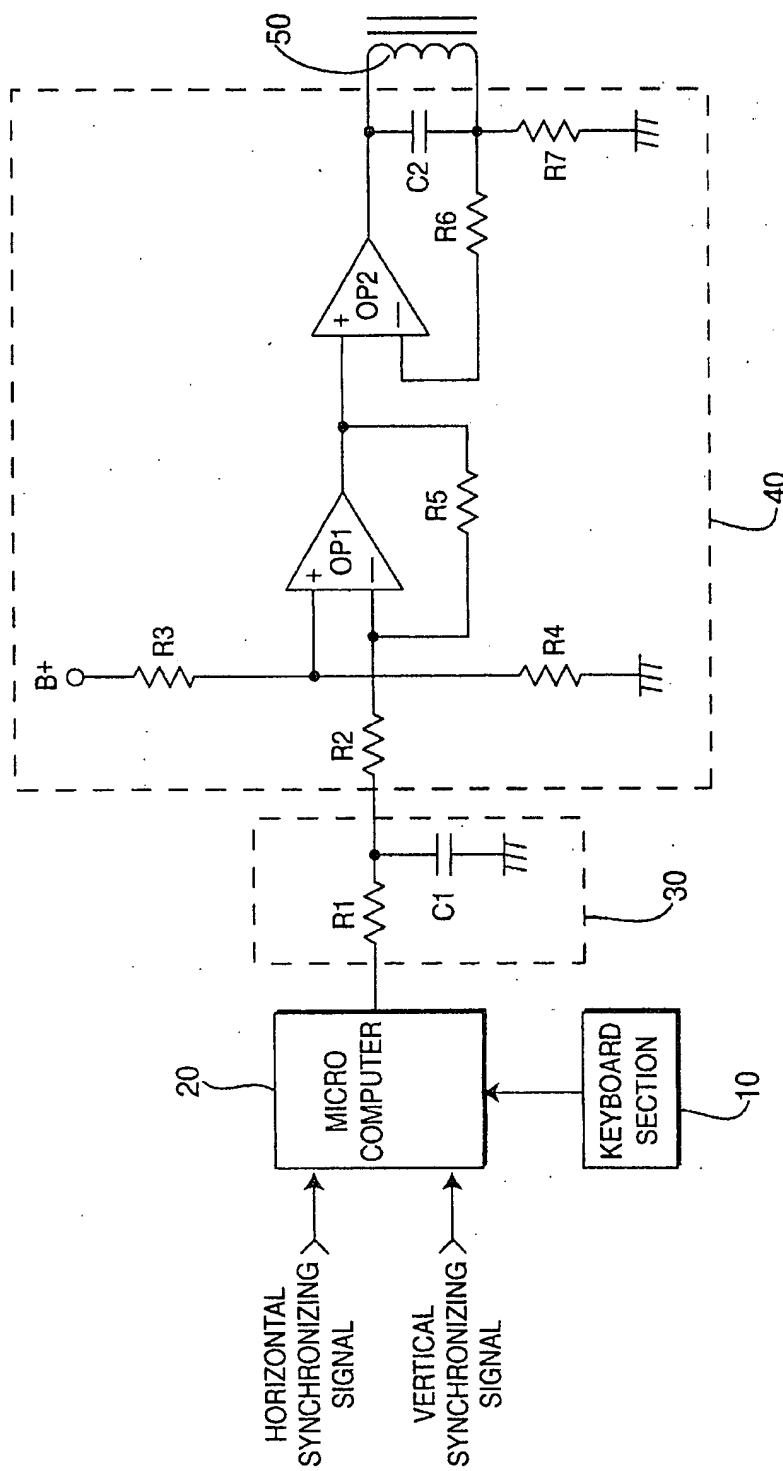
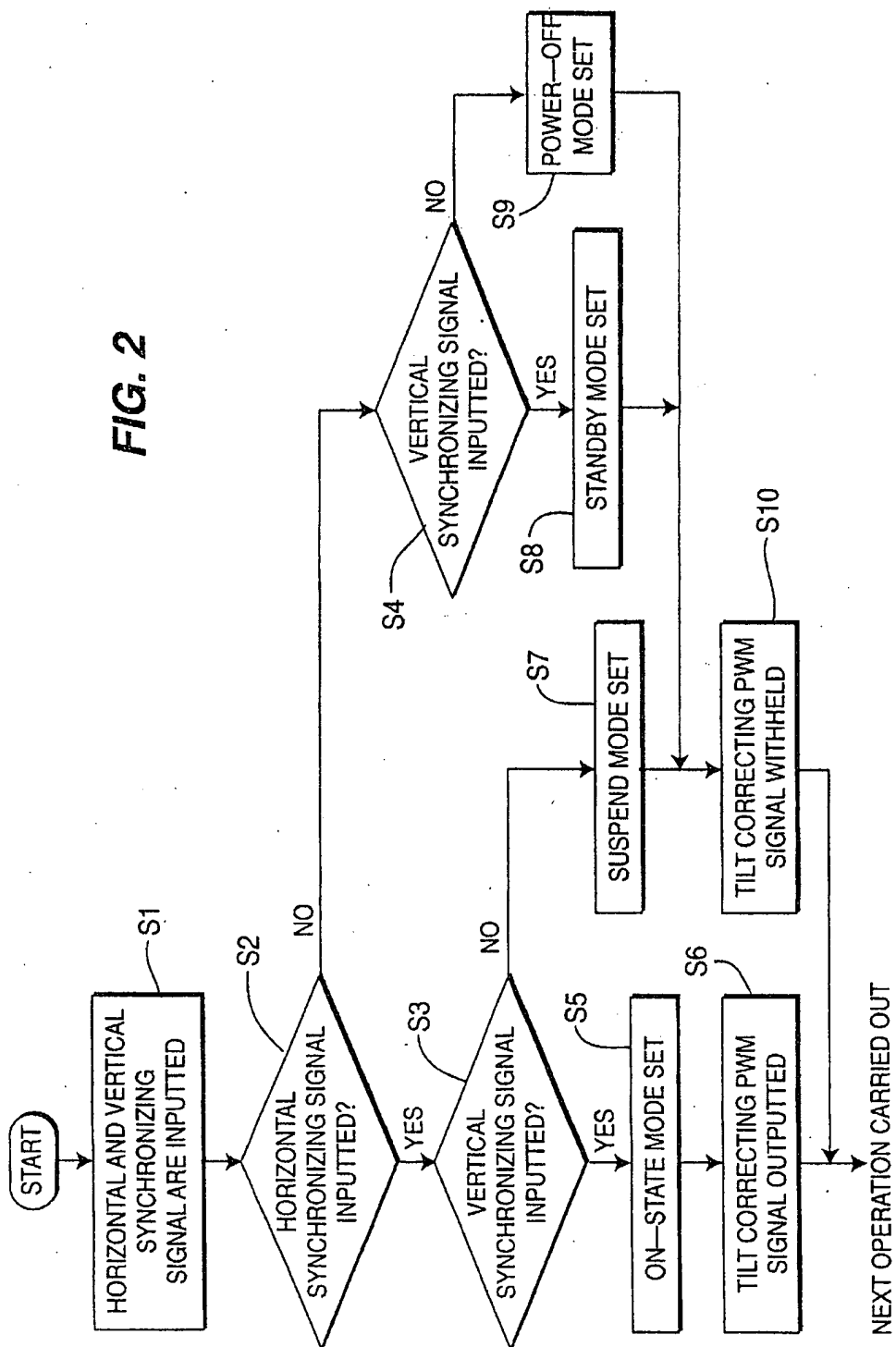


FIG. 1

FIG. 2



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: YEO-CHANG YOON

Original Patent No. 6,141,627 issued on 31 October 2000

Serial No.: *to be assigned*

Examiner: *to be assigned*

Filed: 20 December 2001

Art Unit: *to be assigned*

For: METHOD AND APPARATUS FOR CONTROLLING POWER CONSUMPTION
IN A TILT CORRECTING COIL

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner
for Patents
Washington, D.C. 20231

Sir:

In accordance with 37 C.F.R. §1.56, and §§1.97 and 1.98 as amended, Applicant cites and provides copies of the following art references:

1. U.S. Patent No. 5,021,712 to Sands *et al.*, entitled *APPARATUS FOR COMPENSATING FOR IMAGE ROTATION IN A CRT DISPLAY*, issued on June 4, 1991;
2. U.S. Patent No. 4,296,359 to Dodds, entitled *TELEVISION DISPLAY ERROR CORRECTION*, issued on October 20, 1981; and

3. U.S. Patent No. 4,899,082 to Sands *et al.*, entitled *APPARATUS FOR COMPENSATING FOR IMAGE ROTATION IN A CRT DISPLAY*, issued on February 6, 1990.

The citation of the foregoing references is not intended to constitute an assertion that other or more relevant art does not exist. Accordingly, the Examiner is requested to make a wide-ranging and thorough search of the relevant art.

No fee is incurred by this Statement.

Respectfully submitted,

Robert E. Bushnell
Reg. No.: 27,774

1522 "K" Street, N.W., Suite 300
Washington, D.C. 20005
Area Code: 202-638-5740

Folio: P55057RE
Date: 20 December 2001
I.D.: REB/kt

INFORMATION DISCLOSURE STATEMENT PTO-1449 (PAGE 1 OF 1)	SERIAL NUMBER	DOCKET NO. P55057RE
	APPLICANT YEO-CHANG YOON	
	FILING DATE 20 December 2001	GROUP

U.S. PATENT DOCUMENTS						
EXAMINER	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	5,021,712	6/91	Sands et al.			
	4,296,359	10/81	Dodds			
	4,899,082	2/90	Sands et al.			

FOREIGN PATENT DOCUMENTS						TRANSLATION	
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)	

EXAMINER:	DATE CONSIDERED:
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP §809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: YEO-CHANG YOON

Original Patent No. 6,141,627 issued on 31 October 2000

Serial No.: *to be assigned*

Examiner: *to be assigned*

Filed: 20 December 2001

Art Unit: *to be assigned*

For: METHOD AND APPARATUS FOR CONTROLLING POWER CONSUMPTION
IN A TILT CORRECTING COIL

PRELIMINARY AMENDMENT

Assistant Commissioner
for Patents
Washington, D.C. 20231
Box: REISSUE

Sir:

Entry of the following amendments prior to examination, consideration and calculation of the filing fee for the above-captioned new reissue application, is respectfully requested.

Folio: P55057RE
Date: 12/20/01
I.D.: REB/kf

CLEAN VERSION OF AMENDMENTS

IN THE SPECIFICATION

1. Please amend the first paragraph on column 3, from line 1 through line 6, to read as follows:

Therefore, according to the present invention, the tilt of the image of the screen is corrected in the normal manner in the on-state mode. On the other hand, in the cases of the standby mode, the suspend mode or the power-off mode, the tilt correcting coil does not consume any power, thereby satisfying the power consumption definition of the power-off mode.

2. Please amend the two consecutive paragraphs on column 3, from line 12 through line 17, to read as follows:

FIG. 1 and 1A illustrate an embodiment of a circuit to which the method for controlling the power consumption according to the present invention is applied; and

FIG. 2 is a signal flow chart showing the operation of the microcomputer of FIGS. 1 and 1A, which is used for controlling the power consumption according to the present invention.

3. Please amend the paragraph on column 3, from line 20 through 34, to read as follows:

Referring to FIGS. 1 and 1A, circuitry 60 including tilt correcting signal circuitry for controlling the power consumption comprises: a microcomputer 20 for controlling the DPMS operations of a monitor in accordance with the presence and absence of horizontal and vertical synchronizing signals input from a computer system, and for setting a tilt correcting value for the images of the screen in accordance with key signals of a keyboard or keyboard section 10 and outputting tilt correcting pulse width modulated (PWM) signals; an integrator 30 for converting the tilt correcting PWM signals output from microcomputer 20 to dc voltages; and a tilt correcting signal outputting section 40 for amplifying the output voltages of integrator 30 to output tilt correcting signals. A tilt correcting coil 50 corrects the tilt of the images of the screen in accordance with the output voltages of tilt correcting signal outputting section 40.

4. Please amend the first paragraph on column 4, from line 1 through line 7, to read as follows:

At a step S1, once the computer system is initially started or after a resetting operation, microcomputer 20 receives horizontal and vertical synchronizing or synchronization signals from the computer system in a normal on-state mode. At steps S2-S4, the microcomputer 20 determines whether horizontal and vertical synchronizing signals are being input from the computer system.

IN THE ABSTRACT

Please amend the Abstract, to read as follows:

A method for controlling the power consumption in a tilt correcting coil is disclosed. The power consumption is corrected in the tilt correcting coil for correcting the tilt of the images of the cathode ray tube. If a microcomputer judges that the mode is the on-state mode, then the microcomputer outputs a tilt correcting PWM signal in accordance with the user's inputting. Then the output tilt correcting PWM signal is converted into a dc voltage, and the level is adjusted. Then the signal is supplied to the tilt correcting coil, so that the tilt of the image on the screen would be corrected. In the cases of the standby mode, the suspend mode and/or the power-off mode, the microcomputer outputs a signal which has a function of minimizing the power consumption of the tilt correcting coil. Therefore, the tilt of the image of the screen is corrected in the normal manner in the on-state mode. On the other hand, in the cases of the standby mode, the suspend mode and/or the power-off mode, the tilt correcting coil does not consume any power, thereby satisfying the power consumption definition of the power-off mode.

IN THE CLAIMS

Please amend claims 8, 9, 11 and 12, and add claims 13 through 57, to read as follows:

- 1 8. (Amended) The apparatus as set forth in claim 6, said microcomputer outputting a signal
2 having a constant high logic level, when either one of said horizontal and vertical synchronizing

3 signals are not output from said computer, for preventing said tilt correcting coil from consuming
4 power.

1 9. (Amended) The apparatus as set forth in claim 6, wherein said microcomputer
2 determines said monitor is to operate in said on-state mode when both of said horizontal and vertical
3 synchronizing signals are output from said computer, and determines said monitor is to operate in
4 one of said suspend, standby and power-off modes when at least one of said horizontal and vertical
5 synchronizing signals is not output from said computer;

6 said microcomputer outputting said tilt correcting pulse width modulated signal, when said
7 monitor is determined to be operating in said on-state mode; and

8 said microcomputer outputting a signal having a constant high logic level, when said monitor
9 is determined to be operating in one of said suspend, standby and power-off modes, for preventing
10 said tilt correcting coil from consuming power.

1 11. (Amended) The apparatus as set forth in claim 6, further comprising:

2 said integrator comprising:

3 a first resistor connected between a first node and said microcomputer, and a
4 capacitor connected between said first node and a ground terminal;

5 said tilt correcting signal output circuit comprising:

6 a first amplifier having a negative input terminal, a positive input terminal and an
7 output terminal;

8 a second resistor connected between said first node and said negative input terminal
9 of said first amplifier;

10 a dividing circuit connected between a power source and said ground terminal for
11 providing a divided voltage signal to said positive input terminal of said first amplifier;

12 a feedback resistor connected between said negative input terminal and said output
13 terminal of said first amplifier;

14 a second amplifier having a negative input terminal, a positive input terminal and an
15 output terminal, said positive input terminal of said second amplifier being connected to said
16 output terminal of said first amplifier;

17 said output terminal of said second amplifier being connected to a first terminal of
18 said tilt correcting coil;

19 a second capacitor connected between said first terminal of said tilt correcting coil
20 and a second terminal of said tilt correcting coil;

21 a grounding resistor connected between said second terminal of said tilt correcting
22 coil and said ground terminal; and

23 a second feedback resistor connected between said second terminal of said tilt
24 correcting coil and said negative input terminal of said second amplifier.

1 12. (Amended) The apparatus as set forth in claim 6, further comprising:

2 a keyboard connected to said microcomputer, said microcomputer setting a tilt correcting
3 value for images on a screen of said monitor in accordance with key signals output from said

4 keyboard and outputting said tilt correcting pulse width modulated signal in accordance with said
5 tilt correcting value.

1 13. A method of controlling power consumption in a tilt correcting coil of a monitor
2 including a normal operating mode and a power saving operating mode, comprising the steps of:
3 enabling said tilt correcting coil during said normal operating mode of said monitor; and
4 disabling said tilt correcting coil during said power saving operating mode of said monitor.

1 14. The method of controlling power consumption in accordance with claim 13, further
2 comprising the step of:
3 determining whether a horizontal synchronization signal and a vertical synchronization signal
4 are present.

1 15. The method of controlling power consumption in accordance with claim 14, further
2 comprising the steps of:
3 providing a tilt correcting signal to said tilt correcting coil, said tilt correcting signal
4 including an active state and an inactive state; and
5 said step of enabling said tilt correcting coil comprising:
6 setting said tilt correcting signal in said active state when both of said horizontal
7 synchronization signal and said vertical synchronization signal are present; and
8 said step of disabling said tilt correcting coil comprising:

9 setting said tilt correcting signal in said inactive state when any of said horizontal
10 synchronization signal and said vertical synchronization signal is not present.

1 16. The method of controlling power consumption in accordance with claim 14, further
2 comprised of said tilt correcting signal comprising:
3 a tilt correcting pulse width modulated signal.

1 17. The method of controlling power consumption in accordance with claim 14, further
2 comprised of:
3 said step of enabling said tilt correcting coil comprising:
4 providing a tilt correcting signal to said tilt correcting coil when both of said horizontal
5 synchronization signal and said vertical synchronization signal are present; and
6 said step of disabling said tilt correcting coil comprising:
7 withholding said tilt correcting signal from being supplied to said tilt correcting coil when
8 any of said horizontal synchronization signal and said vertical synchronization signal is not present.

1 18. The method of controlling power consumption in accordance with claim 17, further
2 comprised of said tilt correcting signal comprising:
3 a tilt correcting pulse width modulated signal.

1 19. The method of controlling power consumption in accordance with claim 14, further

2 comprised of said power saving operating mode comprising at least one of:

3 a suspend mode, a standby mode and a power-off mode each respectively corresponding to
4 a power supply mode of a display power management system (DPMS) standard.

1 20. An apparatus for controlling power consumption in a tilt correcting coil of a monitor
2 including a normal operating mode and a power saving operating mode, comprising:

3 a controller for enabling said tilt correcting coil during said normal operating mode of said
4 monitor, and said controller for disabling said tilt correcting coil during said power saving operating
5 mode of said monitor.

1 21. The apparatus for controlling power consumption according to claim 20, further
2 comprised of:

3 said controller for determining whether a horizontal synchronization signal and a vertical
4 synchronization signal are present.

1 22. The apparatus for controlling power consumption according to claim 21, further
2 comprised of:

3 said controller for providing a tilt correcting signal to said tilt correcting coil, said tilt
4 correcting signal including an active state and an inactive state, and said controller for setting said
5 tilt correcting signal in said active state when both of said horizontal synchronization signal and said
6 vertical synchronization signal are present, and said controller for setting said tilt correcting signal

7 in said inactive state when any of said horizontal synchronization signal and said vertical
8 synchronization signal is not present.

1 23. The apparatus for controlling power consumption according to claim 22, further
2 comprised of said tilt correcting signal comprising:
3 a tilt correcting pulse width modulated signal.

1 24. The apparatus for controlling power consumption according to claim 21, further
2 comprised of:
3 said controller for providing a tilt correcting signal to said tilt correcting coil when both of
4 said horizontal synchronization signal and said vertical synchronization signal are present, and said
5 controller for withholding said tilt correcting signal from being supplied to said tilt correcting coil
6 when any of said horizontal synchronization signal and said vertical synchronization signal is not
7 present.

1 25. The apparatus for controlling power consumption according to claim 24, further
2 comprised of said tilt correcting signal comprising:
3 a tilt correcting pulse width modulated signal.

1 26. The apparatus for controlling power consumption according to claim 21, further
2 comprised of said power saving operating mode comprising:

3 a suspend mode, a standby mode and a power-off mode each respectively corresponding to
4 a power supply mode of a display power management system (DPMS) standard.

1 27. A computer readable storage medium including a stored set of instructions for
2 implementing a method of controlling power consumption in a tilt correcting coil of a monitor
3 including a normal operating mode and a power saving operating mode, said stored set of
4 instructions comprising one or more instructions for:

5 enabling said tilt correcting coil during said normal operating mode of said monitor; and
6 disabling tilt correcting coil during said power saving operating mode of said monitor.

1 28. The computer readable storage medium according to claim 27, further comprised of said
2 stored set of instructions further comprising one or more instructions for:

3 determining whether a horizontal synchronization signal and a vertical synchronization signal
4 are present.

1 29. The computer readable storage medium according to claim 28, further comprised of said
2 stored set of instructions further comprising one or more instructions for:

3 providing a tilt correcting signal to said tilt correcting coil, said tilt correcting signal
4 including an active state and an inactive state; and

5 said one or more instructions for enabling said tilt correcting coil comprising one or more
6 instructions for:

7 setting said tilt correcting signal in said active state when both of said horizontal
8 synchronization signal and said vertical synchronization signal are present; and

9 said one or more instructions for disabling said tilt correcting coil comprising one or more
10 instructions for:

11 setting said tilt correcting signal in said inactive state when any of said horizontal
12 synchronization signal and said vertical synchronization signal is not present.

1 30. The computer readable storage medium according to claim 29, further comprised of said
2 one or more instructions for providing said tilt correcting signal comprising one or more instructions
3 for:

4 providing a tilt correcting pulse width modulated signal.

1 31. The computer readable storage medium according to claim 28, further comprised of:
2 said one or more instructions for enabling said tilt correcting coil comprising one or more
3 instructions for:

4 providing a tilt correcting signal to said tilt correcting coil when both of said horizontal
5 synchronization signal and said vertical synchronization signal are present; and

6 said one or more instructions for disabling said tilt correcting coil comprising one or more
7 instructions for:

8 withholding said tilt correcting signal from being supplied to said tilt correcting coil when
9 any of said horizontal synchronization signal and said vertical synchronization signal is not present.

1 32. The computer readable storage medium according to claim 31, further comprised of said
2 one or more instructions for providing a tilt correcting signal comprising one or more instructions
3 for:
4 providing a tilt correcting pulse width modulated signal.

1 33. The computer readable storage medium according to claim 31, further comprised of said
2 power saving operating mode comprising at least one of:
3 a suspend mode, a standby mode and a power-off mode each respectively corresponding to
4 a power supply mode of a display power management system (DPMS) standard.

1 34. A method for controlling power consumption in a tilt correcting coil of a monitor, said
2 method comprising the steps of:
3 providing a tilt correcting signal for correcting a tilt of an image to said tilt correcting coil
4 of said monitor when operating said monitor in an on-state mode; and
5 reducing power consumption of said tilt correcting coil of said monitor by withholding said
6 tilt correcting signal from being used by said tilt correcting coil of said monitor when operating said
7 monitor in at least one of a suspend mode, a standby mode, and a power-off mode.

1 35. The method as set forth in claim 34, further comprised of said on-state mode, said
2 suspend mode, said standby mode and said power-off mode each respectively corresponding to a

3 power supply mode of a display power management system (DPMS).

1 36. The method as set forth in claim 34, further comprised of providing said tilt correcting
2 signal to correspond to a tilt correcting pulse width modulated signal.

1 37. A method for controlling power consumption in a tilt correcting coil of a monitor, said
2 method comprising the steps of:

3 providing a tilt correcting signal for correcting a tilt of an image to said tilt correcting coil
4 of said monitor when operating said monitor in a mode corresponding to normal power consumption
5 for said monitor; and

6 reducing power consumption of said tilt correcting coil of said monitor by withholding said
7 tilt correcting signal from being used by said tilt correcting coil of said monitor when operating said
8 monitor in a mode corresponding to reduced power consumption for said monitor.

1 38. The method as set forth in claim 37, further comprised of providing said tilt correcting
2 signal to correspond to a tilt correcting pulse width modulated signal.

1 39. A method for controlling power consumption in a tilt correcting coil of a monitor, said
2 method comprising the steps of:

3 providing a tilt correcting signal for correcting a tilt of an image to said tilt correcting coil
4 of said monitor when operating said monitor in an activity state corresponding to normal power

5 consumption for said monitor; and

6 withholding said tilt correcting signal from being used by said tilt correcting coil of said
7 monitor when operating said monitor in an activity state corresponding to reduced power
8 consumption for said monitor.

1 40. The method as set forth in claim 39, further comprised of providing said tilt correcting
2 signal to correspond to a tilt correcting pulse width modulated signal.

3 41. The method as set forth in claim 39, further comprised of said activity state
4 corresponding to normal power consumption for said monitor and said activity state corresponding
5 to reduced power consumption for said monitor each respectively corresponding to a power supply
6 mode of a display power management system (DPMS).

1 42. A method for controlling power consumption in a tilt correcting coil of a monitor, said
2 method comprising the steps of:

3 providing a tilt correcting signal for correcting a tilt of an image to said tilt correcting coil
4 of said monitor when both a horizontal synchronizing signal and a vertical synchronizing signal are
5 received by said monitor; and

6 withholding said tilt correcting signal from being used by said tilt correcting coil of said
7 monitor when any of said horizontal synchronizing signal and said vertical synchronizing signal is
8 not received by said monitor to reduce power consumption of said tilt correcting coil of said monitor.

1 43. The method as set forth in claim 42, further comprised of providing said tilt correcting
2 signal to correspond to a tilt correcting pulse width modulated signal.

1 44. A method for controlling power consumption in a tilt correcting coil of a monitor, said
2 method comprising the step of:

3 using a tilt correcting signal by said tilt correcting coil of said monitor for correcting a tilt of
4 an image only when both a horizontal synchronizing signal and a vertical synchronizing signal are
5 received by said monitor.

1 45. The method as set forth in claim 44, further comprised of providing said tilt correcting
2 signal to correspond to a tilt correcting pulse width modulated signal.

3 46. A method for controlling power consumption in a tilt correcting coil of a monitor, said
4 method comprising the step of:

5 preventing a tilt correcting signal from being used by said tilt correcting coil of said monitor
6 when any of a horizontal synchronizing signal and a vertical synchronizing signal is not received by
7 said monitor, said tilt correcting signal for correcting a tilt of an image.

1 47. A method for controlling power consumption in a tilt correcting coil of a monitor,
2 comprising the step of:

3 in absence of any of a horizontal synchronizing signal and a vertical synchronizing signal
4 being received by said monitor, withholding supplying of a tilt correcting signal to said tilt correcting
5 coil of said monitor, said tilt correcting signal for correcting a tilt of an image.

1 48. A method for controlling power consumption in a tilt correcting coil of a monitor, said
2 method comprising the step of:

3 enabling correcting a tilt of an image by said tilt correcting coil of said monitor by said tilt
4 correcting coil using a tilt correcting signal only when both a horizontal synchronizing signal and
5 a vertical synchronizing signal are received by said monitor.

1 49. An apparatus for controlling power consumption in a tilt correcting coil of a monitor,
2 said apparatus comprising:

3 a tilt correcting coil of said monitor for correcting a tilt of an image; and
4 tilt correcting signal circuitry for providing a tilt correcting signal for correcting said tilt of
5 said image to said tilt correcting coil of said monitor and for enabling correcting said tilt of said
6 image by enabling using said tilt correcting signal only when both a horizontal synchronizing signal
7 and a vertical synchronizing signal are received by said tilt correcting signal circuitry.

1 50. The apparatus as set forth in claim 49, further comprised of said tilt correcting signal
2 corresponding to a tilt correcting pulse width modulated signal.

1 51. An apparatus for controlling power consumption in a tilt correcting coil of a monitor,
2 said apparatus comprising:
3 a tilt correcting coil of a monitor for correcting a tilt of an image; and
4 tilt correcting signal circuitry for enabling correction of said tilt of said image by said tilt
5 correcting coil of said monitor using a tilt correcting signal when both a horizontal synchronizing
6 signal and a vertical synchronizing signal are received by said tilt correcting signal circuitry, and said
7 tilt correcting signal circuitry for preventing said tilt correcting signal from being used by said tilt
8 correcting coil of said monitor when any one of said horizontal synchronizing signal and said vertical
9 synchronizing signal is not received by said tilt correcting signal circuitry.

1 52. The apparatus as set forth in claim 51, further comprised of said tilt correcting signal
2 corresponding to a tilt correcting pulse width modulated signal.

1 53. A computer storage medium including a set of instructions implementing a method for
2 controlling power consumption in a tilt correcting coil of a monitor, said set of instructions
3 comprising one or more instructions for:
4 correcting a tilt of an image by said tilt correcting coil of said monitor using a tilt correcting
5 signal when both a horizontal synchronizing signal and a vertical synchronizing signal are received
6 by said monitor; and
7 preventing said tilt correcting signal from being used by said tilt correcting coil of said
8 monitor when any of said horizontal synchronizing signal and said vertical synchronizing signal is

9 not received by said monitor to reduce power consumption of said tilt correcting coil of said monitor.

1 54. The computer storage medium as set forth in claim 53, further comprised of said
2 computer storage medium being comprised by a microcomputer.

1 55. A computer storage medium including a set of instructions implementing a method for
2 controlling power consumption in a tilt correcting coil of a monitor, said set of instructions
3 comprising one or more instructions for:

4 enabling using a tilt correcting signal for correcting a tilt of an image by said tilt correcting
5 coil of said monitor only when both a horizontal synchronizing signal and a vertical synchronizing
6 signal are received by said monitor.

1 56. The computer storage medium as set forth in claim 55, further comprised of said set of
2 instructions comprising one of more instructions for:

3 providing said tilt correcting signal to correspond to a tilt correcting pulse width modulated
4 signal.

1 57. The computer storage medium as set forth in claim 55, further comprised of said
2 computer storage medium being comprised by a microcomputer.

REMARKS

Claims 1 through 57 are pending in this application.

Pursuant to 37 C.F.R. §1.173(c), as to the status of the claims, claims 1 through 12 of the original U.S. patent remain pending in the application, with claims 8, 9, 11 and 12 being amended and claims 13 through 57 being newly added. As to the amendment of claims 8, 9, 11 and 12, these amendments are made to place these claims in better form, particularly to correct an error in claim 11 with respect to the positive input terminal of the second amplifier being connected to an output terminal of the first amplifier, and to clarify claim 12 to recite the tilt correcting pulse width modulated signal in accordance with the tilt correcting value, as well as other clarifying corrections, such as in claims 8, 9 and 11.

Also, as to the new claims 13 through 57, these claims are presented to obtain broader coverage of the invention supported by the above-issued patent as set forth in newly presented claims 13 through 57 in this reissue application. As support for these new method and apparatus claims 13 through 57, the specification sets forth methods and apparatus for controlling power consumption of a tilt correcting coil utilizing circuitry that provides a signal or withholds a signal in relation to a power supply mode, normal or reduced power consumption, an activity state, or horizontal and vertical synchronizing signals, in view of the disclosure of the original aforesaid patent at column 1, line 35-column 4, line 56, as well as in view of Figs. 1 and 2 of the original aforesaid patent. Also, in the added claims 13 through 57, claims have been added directed to a computer storage

medium including instructions for implementing a method of controlling power consumption in a tilt correcting coil, in view of the disclosure in the original aforesaid patent with respect to Fig. 2 and the microcomputer 20, such as at column 3, line 65-column 4, line 56 of the original aforesaid patent.

Entry of the amendments to claims 8, 9, 11 and 12 and entry of new claims 13 through 57, are therefore respectfully requested.

Also, the specification and the Abstract of the disclosure have been amended; entry of these amendments is also respectfully requested.

Also, submitted concurrently herewith is a Request for Approval of Drawing Changes requesting amendment to original Fig. 2 of the original aforesaid patent, as well as adding new Fig. 1A. Amendment to Fig. 2 corrects the wording in the various steps to place Fig. 2 in better form. Also, Fig. 1A has been added in view of the disclosure of column 3, lines 20-64 of the original aforesaid patent to clarify the circuitry as to tilt correcting signal circuitry with respect to the tilt correcting coil 50, such as illustrated in new Fig. 1A, the tilt correcting signal circuitry identified in new Fig. 1A by the numeral 60. Entry of the drawing corrections to Fig. 2 and entry of new Fig. 1A are respectfully requested.

Also, submitted concurrently herewith is an Information Disclosure Statement. Entry and consideration of this Information Disclosure Statement is are respectfully requested.

In view of the foregoing Preliminary Amendment, this reissue application is believed to be in condition for examination. Should questions arise during the examination, the Examiner is requested to contact Applicant's attorney.

Respectfully submitted,

Robert E. Bushnell,
Attorney for the Applicant
Registration No. 27,774

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Folio: P55057RE
Date: 12/20/01
I.D.: REB/kf

MARKED-UP VERSION OF AMENDMENTS

IN THE SPECIFICATION

1. Please amend the first paragraph on column 3, from line 1 through line 6, as follows:

Therefore, according to the present invention, the tilt of the image of the screen is corrected in the normal manner in the on-state mode. On the other hand, in the cases of the standby mode, the suspend mode or the power-off mode, the tilt correcting coil does not consume any power, thereby satisfying the power consumption definition of the power-off mode.

2. Please amend the two consecutive paragraphs on column 3, from line 12 through line 17, as follows:

[FIG. 1 illustrates] FIG. 1 and 1A illustrate an embodiment of a circuit to which the method for controlling the power consumption according to the present invention is applied; and

FIG. 2 is a signal flow chart showing the operation of the microcomputer of [FIG. 1] FIGS. 1 and 1A, which is used for controlling the power consumption according to the present invention.

3. Please amend the paragraph on column 3, from line 20 through 34, as follows:

Referring to [FIG. 1] FIGS. 1 and 1A, [a circuit] circuitry 60 including tilt correcting signal circuitry for controlling the power consumption comprises: a microcomputer 20 for controlling the

DPMS operations of a monitor in accordance with the presence and absence of horizontal and vertical synchronizing signals input from a computer system, and for setting a tilt correcting value for the images of the screen in accordance with key signals of a keyboard or keyboard section 10 and outputting [a] tilt correcting pulse width modulated (PWM) signals; an integrator 30 for converting the tilt correcting PWM signals output from microcomputer 20 to dc voltages; and a tilt correcting signal outputting section 40 for amplifying the output voltages of integrator 30 to output tilt correcting signals[; and]. [a] A tilt correcting coil 50 [for correcting] corrects the tilt of the images of the screen in accordance with the output voltages of tilt correcting signal outputting section 40.

4. Please amend the first paragraph on column 4, from line 1 through line 7, as follows:

At a step S1, once the computer system is initially started or after a resetting operation, microcomputer 20 receives horizontal and vertical synchronizing or synchronization signals from the computer system in a normal on-state mode. At steps S2-S4, the microcomputer 20 determines whether horizontal and vertical synchronizing signals are being input from the computer system.

IN THE ABSTRACT

Please amend the Abstract, as follows:

A method for controlling the power consumption in a tilt correcting coil is disclosed. The power consumption is corrected in the tilt correcting coil for correcting the tilt of the images of the

cathode ray tube. If a microcomputer judges that the mode is the on-state mode, then the microcomputer outputs a tilt correcting PWM signal in accordance with the user's inputting. Then the output tilt correcting PWM signal is converted into a dc voltage, and the level is adjusted. Then the signal is supplied to the tilt correcting coil, so that the tilt of the image on the screen would be corrected. In the cases of the standby mode, the suspend mode and/or the power-off mode, the microcomputer outputs a signal which has a function of minimizing the power consumption of the tilt correcting coil. Therefore, the tilt of the image of the screen is corrected in the normal manner in the on-state mode. On the other hand, in the cases of the standby mode, the suspend mode and/or the power-off mode, the tilt correcting coil does not consume any power, thereby satisfying the power consumption definition of the power-off mode.

IN THE CLAIMS

Please amend claims 8, 9, 11 and 12, as follows, and add claims 13 through 57, as listed above:

1 8. (Amended) The apparatus as set forth in claim 6, said microcomputer outputting a signal
2 having a constant high logic level, when either one of said [of] horizontal and vertical synchronizing
3 signals are not output from said computer, for preventing said tilt correcting coil from consuming
4 power.

1 9. (Amended) The apparatus as set forth in claim 6, wherein said microcomputer

determines said monitor is to operate in said on-state mode when both of said [of] horizontal and vertical synchronizing signals are output from said computer, and determines said monitor is to operate in one of said suspend, standby and power-off modes when at least one of said [of] horizontal and vertical synchronizing signals is not output from said computer;

said microcomputer outputting said tilt correcting pulse width modulated signal, when said monitor is determined to be operating in said on-state mode; and

said microcomputer outputting a signal having a constant high logic level, when said monitor is determined to be operating in one of said suspend, standby and power-off modes, for preventing said tilt correcting coil from consuming power.

11. (Amended) The apparatus as set forth in claim 6, further comprising:

said integrator comprising:

a first resistor connected between a first node and said microcomputer, and a capacitor connected between said first node and a ground terminal;

said tilt correcting signal output circuit comprising:

a first amplifier having a negative input terminal, a positive input terminal and an output terminal;

a second resistor connected between said first node and said negative input terminal of said first amplifier;

a dividing circuit connected between a power source and said ground terminal for providing a divided voltage signal to said positive input terminal of said first amplifier;

12 a feedback resistor connected between said negative input terminal and said output
13 terminal of said first amplifier;

14 a second amplifier having a negative input terminal, a positive input terminal and an
15 output terminal, said [negative] positive input terminal of said second amplifier being
16 connected to said output terminal of said first amplifier;

17 said output terminal of said second amplifier being connected to a first terminal of
18 said tilt correcting coil;

19 a second capacitor connected between said first terminal of said tilt correcting coil
20 and a second terminal of said tilt correcting coil;

21 a grounding resistor connected between said second terminal of said tilt correcting
22 coil and said ground terminal; and

23 a second feedback resistor connected between said second terminal of said tilt
24 correcting coil and said negative input terminal of said second amplifier.

1 12. (Amended) The apparatus as set forth in claim 6, further comprising:

2 a keyboard connected to said microcomputer, said microcomputer setting a tilt correcting
3 value for images on a screen of said monitor in accordance with key signals output from said
4 keyboard and outputting said tilt correcting pulse width modulated [(PWM) signals] signal in
5 accordance [to] with said tilt correcting value.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: YEO-CHANG YOON

Original Patent No. 6,141,627 issued on 31 October 2000

Serial No.: *to be assigned*

Examiner: *to be assigned*

Filed: 20 December 2001

Art Unit: *to be assigned*

For: METHOD AND APPARATUS FOR CONTROLLING POWER CONSUMPTION
IN A TILT CORRECTING COIL

TRANSMITTAL OF DECLARATIONS

Assistant Commissioner
for Patents
Washington, D.C. 20231
Box: REISSUE

Sir:

This transmittal accompanies:

1. Reissue Application Declaration by the Assignee in combination with Declaration as to Loss of Letters Patent (PTO/SB/52); and
2. Reissue Application Declaration by the Inventor (PTO/SB/51).

for the above captioned reissue application.

Respectfully submitted,

Robert E. Bushnell,
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Folio: P55057RE
Date: 12/20/1
I.D.: REB/kf

REISSUE APPLICATION DECLARATION BY THE INVENTORDocket Number (Optional)
P55057RE

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is described and claimed in patent number 6,141,627, granted on October 31, 2000, and for which a reissue patent is sought on the invention entitled METHOD AND APPARATUS FOR CONTROLLING POWER CONSUMPTION IN A TILT CORRECTING COIL, the specification of which

☒ is attached hereto, and is being amended in the Preliminary Amendment filed concurrently with this reissue application.

☐ was filed on _____ As reissue application number ____ / _____, and was amended on _____.

(If applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to patentability and to the examination of this application in accordance with Title 37 of the Code of Federal Regulations §1.56. I hereby claim foreign priority benefits under Title 35, U.S. Code §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT International application which designated at least one country other than the United States, or §119(e) of any United States provisional application(s), listed below and have also identified below any foreign applications for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Priority Claimed:

15728/1997 Republic of Korea 26 April 1997
(Application Number) (Country) (Day/Month/Year filed)

Yes [X] No []

I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I verily believe the original patent to be wholly or partly inoperative or invalid, for the reasons described below. (Check all boxes that apply.)

☒ by reason of a defective specification or drawings.

☒ by reason of the patentee claiming more or less than he had the right to claim in the patent.

☒ by reason of other errors.

At least one error upon which reissue is based is described as follows:

Pursuant to 37 C.F.R. §1.175, Applicant believes the original aforesaid patent to be wholly or partly inoperative by reason of a defective specification or drawings, or by reason of the patentee claiming more or less than the patentee had the right to claim in the patent, or by reason of other errors.

As to the drawings and specification, it is Applicant's intent and desire to clarify the circuitry as to tilt correcting signal circuitry with respect to the tilt correcting coil 50, as illustrated in new Fig. 1A, in view of the disclosure at column 3, lines 20-64 of the original aforesaid patent. New Fig. 1A has been added and the specification has been amended to more clearly set forth circuitry including tilt correcting signal circuitry, identified in new Fig. 1A by the numeral 60, for outputting a signal or withholding a signal in relation to enabling or not enabling tilt correction by the tilt correcting coil 50, in view of the disclosure of the original aforesaid patent, for example, at column 3, lines 20 to column 4, line 56. Also, Fig. 2 has been amended to grammatically place Fig. 2 in better form.

Applicant also believes the original aforesaid patent to be wholly or partly inoperative by reason of his claiming more or less than he had a right to claim in the original aforesaid patent and, more specifically, by failing to more broadly claim Applicant's inventions as disclosed and described in the original aforesaid patent.

Specifically, the specification sets forth methods and apparatus for controlling power consumption of a tilt correcting coil utilizing circuitry that provides a signal or withholds a signal in relation to a power supply mode, normal or reduced power consumption, an activity state, or horizontal and vertical synchronizing signals, in view of the disclosure of the original aforesaid patent at column 1, line 35 through column 4, line 56, and claims have been added in this regard.

Also, claims have been added directed to a computer storage medium including instructions for implementing a method for controlling power consumption in a tilt correcting coil, in view of the disclosure in the original aforesaid patent with respect to Fig. 2 and the microcomputer 20, such as at column 3, line 65-column 4, line 56 of the original aforesaid patent.

Accordingly, it is Applicant's intent and desire to obtain broader coverage of his inventions as defined by the newly presented claims 13 through 57 in this reissue application, in addition to the claim coverage of claims 1 through 12 of the original aforesaid patent.

Further, it is Applicant's intent to clarify the patent claims in the original aforesaid patent, particularly to correct an error in claim 11 with respect to the positive input terminal of the second amplifier being connected to an output terminal of the first amplifier, and to clarify claim 12 to recite the tilt correcting pulse width modulated signal in accordance with the tilt correcting value, as well as other clarifying corrections, such as in claims 8, 9, and 11.

(REISSUE APPLICATION DECLARATION BY THE INVENTOR, page 3)				Docket Number (Optional) P55057RE	
<p>All errors corrected in this reissue application arose without any deceptive intention on the part of the applicant. As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.</p> <p>Name(s): <u>Robert E. Bushnell</u> Registration Number: <u>27,774</u></p> <p>Correspondence Address: Direct all communication about the application to:</p> <p><input type="checkbox"/> Customer Number 008-439 →</p> <p style="text-align: center;"><i>Type Customer Number Here Place Customer Number, Bar Code Label Here</i></p> <p style="text-align: center;">OR</p>					
<input checked="" type="checkbox"/> Firm or individual Name		ROBERT E. BUSHNELL AND LAW FIRM			
Address		1522 K Street, N.W., Suite 300,			
City	Washington	State	D.C.	ZIP	20005-1202
Country		U.S.A.			
Telephone		(202) 408-9040	Fax	(202) 628-0755	
<p>I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and imprisonment, or both, under 18 U.S.C. 1001, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this declaration is directed.</p>					
Full name of sole or first inventor (given name, family name)					
YEO-CHANG YOON					
Inventor's signature					
<i>Yeo Chang Yoon</i>					
Residence:				Date	
959-16, Bangbae2-dong, Seocho-gu, Seoul, Republic of Korea				December 11, 2001	
Post Office Address:				Citizenship:	
Same as above				Republic of Korea	
Full name of sole or first inventor (given name, family name)					
Inventor's signature					
Residence				Date	
Post Office Address				Citizenship	
<input type="checkbox"/> Additional joint inventors are named on separately numbered sheets attached hereto.					

REISSUE APPLICATION DECLARATION BY THE ASSIGNEE		Docket Number (optional) P55057RE								
<p>I hereby declare that:</p> <p>My residence and post office address and citizenship are stated below next to my name.</p> <p>I am authorized to act on behalf of the following assignee: <u>SAMSUNG ELECTRONICS CO., LTD.</u></p> <p>and the title of my position with said assignee is: <u>Senior Manager</u></p> <p>The entire title to the patent identified below is vested in said assignee.</p>										
Name of Patentee(s): YEO-CHANG YOON										
Patent Number: 6,141,627	Date of Patent Issued October 31, 2000									
Title of Invention: METHOD AND APPARATUS FOR CONTROLLING POWER CONSUMPTION IN A TILT CORRECTING COIL										
<p>I believe said patentee(s) to be the original, first and sole/joint inventor(s) of the subject matter which is described and claimed in said patent, for which a reissue patent is sought on the invention entitled <u>METHOD AND APPARATUS FOR CONTROLLING POWER CONSUMPTION IN A TILT CORRECTING COIL</u>, the specification of which</p> <p><input checked="" type="checkbox"/> is attached hereto, and is being amended in the Preliminary Amendment filed concurrently with this reissue application.</p> <p><input type="checkbox"/> was filed on _____ As reissue application number ____ / _____, and was amended on _____</p> <p style="text-align: center;">(If applicable)</p> <p>I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to patentability and to the examination of this application in accordance with Title 37 of the Code of Federal Regulations §1.56. I hereby claim foreign priority benefits under Title 35, U.S. Code §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT International application which designated at least one country other than the United States, or §119(e) of any United States provisional application(s), listed below and have also identified below any foreign applications for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; text-align: center;">15728/1997</td> <td style="width: 33%; text-align: center;">Republic of Korea</td> <td style="width: 33%; text-align: center;">26 April 1997</td> <td style="width: 10%; text-align: right;">Priority Claimed:</td> </tr> <tr> <td style="text-align: center;">(Application Number)</td> <td style="text-align: center;">(Country)</td> <td style="text-align: center;">(Day/Month/Year filed)</td> <td style="text-align: right;">Yes [X] No []</td> </tr> </table> <p>I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.</p> <p>I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.</p>			15728/1997	Republic of Korea	26 April 1997	Priority Claimed:	(Application Number)	(Country)	(Day/Month/Year filed)	Yes [X] No []
15728/1997	Republic of Korea	26 April 1997	Priority Claimed:							
(Application Number)	(Country)	(Day/Month/Year filed)	Yes [X] No []							

Burden Hour Statement: This form is estimated to take 0.5 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

I verily believe the original patent to be wholly or partly inoperative or invalid, for the reasons described below.

(Check all boxed that apply.)

- ☒ by reason of a defective specification or drawings.
- ☒ by reason of the patentee claiming more or less than he had the right to claim in the patent.
- ☒ by reason of other errors.

At least one error upon which reissue is based is described as follows:

Pursuant to 37 C.F.R. §1.175, Applicant believes the original aforesaid patent to be wholly or partly inoperative by reason of a defective specification or drawings, or by reason of the patentee claiming more or less than the patentee had the right to claim in the patent, or by reason of other errors.

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

(REISSUE APPLICATION DECLARATION BY THE ASSIGNEE, page 2)				Docket Number (optional) P55057RE	
<p>All errors corrected by this reissue application arose without any deceptive intent on the part of the Applicant. I offer to surrender the original grant of the patent, unless that patent is lost or has become unavailable. I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.</p> <p>Name(s) Robert E. Bushnell Registration Number 27,774</p>					
Correspondence Address: Direct all communications about the application to:					
<input type="checkbox"/> Customer Number 008-439 → <i>Place Customer Number Bar Code Label Here</i> <i>Type Customer Number Here</i> OR					
<input checked="" type="checkbox"/> Firm or Individual Name		ROBERT E. BUSHNELL AND LAW FIRM			
Address		1522 K Street, N.W., Suite 300,			
City	Washington	State	D.C.	Zip	20005-1202
Country	U.S.A.				
Telephone	(202) 408-9040				
<p>The undersigned officer of the Assignee, is duly authorized to make this Declaration, and has examined the documents of title, and determined that SamSung Electronics Co., Ltd., the assignee of U.S. Patent No. 6,141,627 by virtue of an Assignment from all inventors recorded in the U.S. Patent & Trademark Office at Reel No. 9323, at Frame No. 0219 on the 20th day of July 1998, consents to the filing of this reissue application for the reissue of U.S. Patent No. 6,141,627.</p> <p>I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and imprisonment, or both, under 18 U.S.C. 1001, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this declaration is directed.</p>					
Full name of person signing (given name, family name)		YONG-TAE LEE			
Signature <i>Yong Tae Lee</i>				Date <i>Dec. 11, 2001</i>	
Address of Assignee 416 Maetan-dong, Paldal-gu, Suwon-city, Kyungki-do, Republic of KOREA					
Patentee YEO-CHANG YOON				Citizenship	
Residence/Post Office Address: 959-16, Bangbae2-dong, Seocho-gu, Seoul, Republic of Korea					
Patentee				Citizenship	
Residence/Post Office Address					